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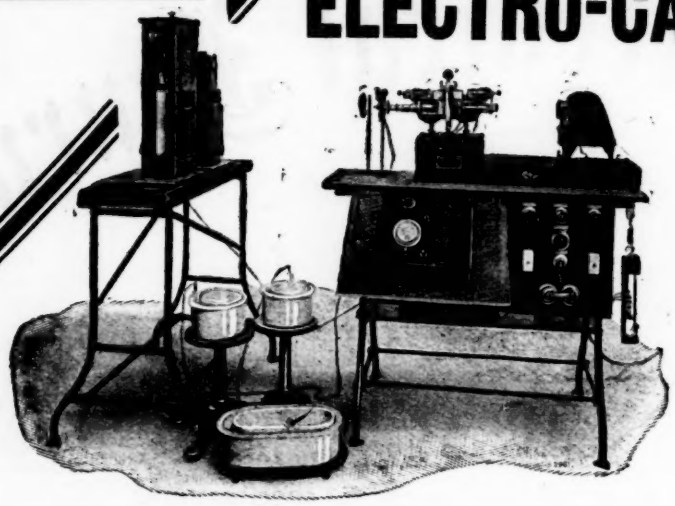

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A British Medical Association Lecture

ON

BILIARY INFECTIONS:

WITH SPECIAL REFERENCE TO DIAGNOSIS.

BY

D. P. D. WILKIE, M.CH., F.R.C.S.,

PROFESSOR OF SURGERY IN THE UNIVERSITY OF EDINBURGH.

ACCURATE diagnosis and appropriate treatment must ever rest on a sound knowledge of pathology. In the case of some abdominal maladies diagnosis and treatment would appear to have advanced somewhat hastily beyond the controlling limits of ascertained pathological fact: not so in biliary infections. To the frequency of such infections all pathologists and surgeons will bear witness. We are only beginning to realize how much chronic ill health is attributable to such infections and how many fatal complications may supervene in the neglected cases. Our aim should be to prevent the development and establishment of such chronic infective processes in the biliary tract, and, where this is not possible, to reach an early diagnosis and recommend appropriate treatment before complications have developed and irretrievable damage has been done.

ANATOMY, PHYSIOLOGY, AND PATHOLOGY.

Certain points in the anatomy, physiology, and pathology of the biliary tract require emphasis, as they form the essential basis for a correct interpretation of symptoms.

Anatomy.

The striking feature of the biliary duct system is that large diverticulum the gall bladder, with its thin wall containing elastic tissue and a small amount of unstriped muscle fibre, its narrow eccentrically placed outlet, the spiral fold of mucous membrane in its duct, its generous blood supply, and its free lymphatic drainage. The main bile ducts are thin-walled and possess but a thin layer of unstriped muscle, except at the lower end of the common duct, where there is an aggregation of circular muscle fibres, sphincteric in function, as first described by Oddi. The intimate relationship of the main pancreatic duct with the bile duct is important, but not more so than the free anastomosis between the lymphatics draining the gall bladder and ducts and those of the head of the pancreas. The nerve supply of the biliary passages is a complex one and goes far to explain the diversity of symptoms met with in biliary disease. It consists of sympathetic fibres from the coeliac plexus corresponding to the lower six thoracic segments of the cord, fibres from the vagus, and occasionally sensory fibres from the phrenic. Herein lies the explanation of the pain and constricting sensations round the lower ribs, the gastric symptoms, and the shoulder pain met with in gall-bladder affections.

Physiology.

The secretion of bile with its contained pigments and bile salts and its cholesterin in colloidal emulsion is a continuous process. Between meals, however, little bile escapes into the duodenum, and it is the storage and concentration of bile in the gall bladder during the fasting period and its ejection following the succeeding meal that form the characteristic and significant features of the biliary mechanism. Whilst the lining membrane of the bile ducts secretes a fluid which dilutes the bile, the gall bladder has remarkable powers of absorption and concentration. It is no mere passive cul-de-sac, the storage capacity of which is measured by its size; on the contrary, it is an active concentrating chamber in which the bile may be concentrated ten times within twenty-four hours. In this absorptive function lie its virtue and its danger, for, when infection supervenes, not only does its inspissation of content tend to favour concretion formation, but the absorption of toxic products may lead to poisoning of the other tissues, notably the heart muscle. The synchronous emptying of the gall bladder with relaxation of the sphincter of Oddi, produced by stimulation of the sympathetic or of the central end of the vagus and shown to follow the introduction of concentrated magnesium sulphate into the duodenum, is not so perfect a co-ordinated action as was at one time believed, and it is probable that the gall bladder empties much more from outside pressure consequent on respiratory and other efforts than from an active contraction of such unstriped muscle as is present in its walls.

Pathology.

Infection reaching the biliary passages might be expected to lodge and obtain a foothold more readily in the gall bladder where stasis is a physiological property than in the conducting channels, and this is notoriously the case. Further, the gall bladder has been shown to be one of the seats of election for the lodgement of certain forms of bacteria which may gain entrance to the blood.

The experiments of Rosenow have shown how certain strains of streptococci injected into the blood stream may infect the wall of the gall bladder in preference to all other tissues. Typhoid bacilli may continue to live in the gall bladder for years after the primary intestinal infection. The colon bacillus, carried to the liver by the portal circulation, may escape in the bile or by way of the hepatic lymphatics and so reach the gall bladder, where, under certain conditions, it finds a favourable habitat. Graham has demonstrated the frequent association of a hepatitis with a cholecystitis, and has brought forward considerable evidence to show that the infection spreads from the liver to the gall bladder, either directly or through their free lymphatic connexions. Anything which causes an unusual degree of biliary stasis will favour the inception of biliary infection. Thus we find that persons in middle life who have begun to put on weight, to take less exercise, and to allow their abdominal muscles to become merely a casing for their omental fat, are peculiarly liable to biliary infection and stone formation. The association of biliary infection with pregnancy and the puerperium is known to all. Three factors probably contribute to this special liability. First, biliary stasis; secondly, increased cholesterol content in the blood and bile; and thirdly, and I think of most importance, constipation, with *B. coli* infection of the portal blood, a cholecystitis developing along with or independently of a *B. coli* pyelitis of one or both kidneys. The portal of entry of the organisms invading the gall bladder may be a recognizable focal infection, such as a root abscess of a tooth or an appendicular infection; in many cases, however, the primary source will be sought for in vain. That biliary infection is an essential and inevitable precursor of gall-stone formation is, I consider, unproven. The single cholesterin stone may quite possibly be an aseptic gall stone. It is unlikely to remain indefinitely so. Sooner or later the lowered vitality of the gall bladder consequent on repeated obstruction of its outlet will permit of infection settling in its wall, and we get a cholecystitis secondary to stone. All evidence points, however, to the other sequence—infection, then gall-stone formation—being infinitely the more common one.

CLINICAL PICTURE.

We are now in a position to approach the subject from the purely clinical standpoint. It may be stated at once that the diagnosis of a biliary infection, especially when associated with gall stones, can usually be made by ordinary clinical methods—that is, by a careful and painstaking history and a purposive physical examination. Moynihan first laid emphasis on the importance of recognizing the inaugural symptoms of biliary infection. In the majority of cases the patient's complaint is of stomach trouble. The gastric symptoms are of two kinds. Most frequently the complaint is of a flatulent type of dyspepsia—of discomfort and distension coming on shortly (half an hour) after food, relieved by belching up wind. The patient may on occasion have to loosen the clothing in the endeavour, often vain, to get relief. This discomfort is worse after certain kinds of food, particularly fats, pastry, and vegetables. In other cases, however, the discomfort is delayed for an hour or more after food, when acid eructations and heartburn indicate that a gastric hyperacidity is present. Such symptoms should always suggest biliary trouble, and if the patient be a stout middle-aged multiparous female they form strong

presumptive evidence of gall-bladder mischief. So obsessed may the patient be with the stomach symptoms that, unless asked directly, she may fail to tell of definite attacks of colic, lasting for some hours, or of soreness under the right costal margin, lasting for days. As in the majority of cases the infection and calculus formation are mainly confined to the gall bladder, jaundice is not likely to be a symptom. The absence of a history of jaundice must never be taken as evidence against the presence of gall-bladder disease.

The *seat of pain* in the inaugural stages of gall-bladder disease is very varied. As a rule it is referred to the "pit of the stomach"; not infrequently it is more pronounced on the left than on the right side, and, as it is often accompanied by palpitations, may suggest cardiac disease. The aching in the right shoulder and right side of the neck may suggest rheumatism, or when down the right arm, neuritis. In the majority of cases, however, it is referred to the right costal margin and round the lower ribs on the right side to the lower angle of the right scapula. It is a notable fact that in quite 15 per cent. of cases the pain is felt as low down as the iliac fossa on the right side, so as to raise suspicions of appendicitis, suspicions not always unfounded, for coincident appendicular disease is by no means rare. Some patients will seek advice for pain in the right breast, when the absence of local pathology will render the gall bladder suspect. Any of the above symptoms should lead to a close cross-questioning of the patient as to a history of short attacks of severe pain, for a surmise may become a certainty if such a story be obtained.

The varied character and wide distribution of symptoms associated with an infected gall bladder are readily explained when, first, we reflect on the different nerve paths along which impulses may travel to centres whence they are referred to the periphery as pain, and, secondly, on the fact that the gall bladder may be a focal infection and toxic absorption from it may involve muscles and joints throughout the body and lead to a definite degeneration of the heart muscle. The "cholecystic heart" is now recognized by many as a clinical entity, and certain cases of muscular rheumatism and of rheumatoid joints have been proved to be dependent on a gall-bladder infection in so far that all rheumatic symptoms have disappeared after cholecystectomy.

Acute Cholecystitis.

Acute inflammation of the gall bladder may present one of two clinical pictures according to whether the cystic duct is occluded or not. In the *simple unobstructive type* the onset is gradual, characterized by nausea, loss of appetite, a rise of temperature, possibly preceded by a slight rigor and by aching pain across the epigastrium and under the right costal margin; acute colicky pain is usually absent. The patient looks ill and poisoned, with a coated tongue and heavy breath, and definite tenderness and rigidity of the upper part of the right rectus muscle are present. Such an attack will usually subside in a few days under expectant treatment. Occasionally, however, a peculiarly virulent infection may lead to gangrene with perforation of the gall bladder, followed by a localized abscess or a generalized peritonitis. Such attacks are undoubtedly very common, but as acute pain is not a striking feature the medical man may not be called in and they pass as "congestion of the liver."

In the other form, *acute obstructive cholecystitis*, so well described recently by Morley, the picture is typical and should be unmistakable. The onset is associated with pain across the epigastric region, radiating round to the back. Tenderness and rigidity of the upper part of the right rectus muscle are almost invariable. A premonitory attack of diarrhoea, associated with flatulence and nausea, is not unusual; vomiting may occur but is not the rule. Some frequency of micturition and pain across the lower ribs behind may lead to an examination of the urine and the discovery of a bacilluria which is probably eliminative in origin, even if due to a coincident pyelitis. The catch in breathing from diaphragmatic spasm may lead to the detection of diminished breath sounds and some crepitations at the base of the right lung—a common finding in acute biliary infections. These secondary manifestations must not be allowed to obscure the real primary condition, the signs of which are nearly always patent. The rigidity and tenderness below the right costal margin usually prevent the enlarged gall bladder being felt; sometimes, however, it presents as an obvious, tense, rounded swelling. The initial acute pain may suggest biliary colic, and morphine and atropine may be given. When the effect of the drugs has worn off, however, the pain and tenderness persist and the temperature remains up. When seen after the first twenty-four hours the symptoms may at first suggest an intestinal obstruction, for the patient (usually elderly) may complain of a feeling of distension on the right side of the abdomen, an inability to pass flatus, even after an enema, and examination may reveal a dilated caecum. This pseudo-obstruction is due to the adhesion of the hepatic flexure of the colon to the inflamed gall bladder and must not be allowed to deflect attention from the primary seat of mischief. To adopt an expectant attitude in these cases is to run a needless risk, for, whilst in younger subjects the gall bladder may withstand the tension and the obstruction may right itself, in the more elderly gangrene is liable to result with serious consequences. In prompt diagnosis and immediate operation lies the only safe course in these obstructive cases.

Secondary Pancreatic Infection.

My experience has been that in over 9 per cent. of patients showing signs of acute biliary infection there is a coincident subacute pancreatitis. Such patients present a clinical picture which has three main distinguishing features: (1) They look more ill and grey than do those with a simple cholecystitis. (2) They complain of great epigastric distress rather than acute pain. (3) Tenderness is elicited over the whole of the upper part of the abdomen, which may show a definite fullness, and the local rigidity of the right rectus muscle is not so striking as where pancreatitis is absent. When the abdomen is opened in these cases the striking feature is a bile-stained oedema of the cellular tissues over the head of the pancreas with possibly some fat necrosis, but no haemorrhage. The gall bladder, although infected, does not show the same gross changes which we meet with in obstructive cholecystitis, and the pathological findings point to the pancreatic infection as being the immediate cause of the patient's symptoms. The spread of infection from gall bladder to pancreas is probably by way of the lymphatics, at least it is the exception in such cases to find any clear evidence of a cholangitis. Whilst the mortality in such cases is not high—probably not more than 15 per cent.—the convalescence from operation is slow, post-operative complications, including subphrenic abscess, not uncommon, and, in some cases, chronic ill health with glycosuria follows.

Chronic Grumbling Cholecystitis.

A distinct group of cases may be classed under this heading. In this group the patient suffers from a more or less constant sense of fullness and weight under the right costal margin, instinctively shrinks from any pressure on that region, and feels a sharp stabbing pain on stooping or on stretching upwards with the right arm. If exposed to wet or cold she develops a more pronounced aching in the right lower costal margin, usually attributed to a "chill on the liver." Occasionally a slight tinge of yellow appears in the skin and she is said to be looking liverish. Such symptoms may persist for years, until finally an acute obstructive attack or a pancreatitis supervenes and converts a state of chronic ill health into one of acute and immediate danger. By timely interference in this class of case much chronic disability may be avoided and final disaster averted.

Recurring Cholangitis.

Inflammation of the common and lesser bile ducts is usually secondary to gall-bladder disease and associated with the presence of one or more stones in the common duct. In many cases the clinical picture is too obvious to escape detection. A history of recurring attacks of colic, with rigors, fever, jaundice, and loss of weight, leaves little doubt as to the diagnosis. In other cases, however, the sharp outlines of the classical picture are wanting. No history

of colic is obtained, merely recurring chills with fever, nausea, loss of appetite, a faint tinge of yellow in the skin, and signs of basal pulmonary congestion. As such attacks frequently follow exposure to cold the pulmonary signs are liable to receive undue attention and the primary biliary infection to be overlooked. The marked loss of weight so characteristic of a chronic cholangitis, and due, in some measure at least, to the associated pancreatitis, is apt to suggest malignant disease. Physical examination will reveal little except some tenderness in the mid-epigastric region just to the right of the mid-line, and on the history the diagnosis must be based.

When the patient is seen for the first time when deeply jaundiced accurate diagnosis will be more difficult. Having excluded malignant disease of the liver, advanced cirrhosis, haemolytic jaundice, and the acute catarrhal type, we wish to decide whether the cause is an impacted stone in the common duct or a chronic pancreatitis—for both of which surgery has much to offer—or whether it is malignant disease of the pancreas or bile duct, or, still worse, malignant disease of the gall bladder with secondary glandular involvement in the portal fissure. A history of remissions of fever and of colic will point to a gall stone, a painless progressive course with an enlarged gall bladder to the malignant. In many cases, however, only an exploratory operation will decide the issue. I have found that the general aspect of the patient is the surest clinical guide to a diagnosis in these cases. The clear orange-yellow tint usually gives hope of a non-malignant cause, the grey-green and bronzed give no such hope. Van den Bergh's test has, unfortunately, not proved of great practical value in this class of case, because just in the case where help is most required its findings are indeterminate.

Special Aids to Diagnosis.

X Rays.

Considerable help may be obtained by radiography in doubtful cases, but, whilst positive evidence may be conclusive, negative is to be discounted. Three forms of evidence are available from *x*-ray examination: First, direct evidence, in the shape of shadows, either of gall stones or of an enlarged and thickened gall bladder, may be obtained. Secondly, indirect evidence, as when after a barium meal a persistent deformity of the duodenum from pressure by or adhesion to the gall bladder is demonstrable. Thirdly, eliminative evidence, where either the definite demonstration of a gastric or duodenal lesion which would account for the symptoms is made, or where no gastro-intestinal lesion is shown and the gall bladder rendered the more suspect. Occasionally where a gall stone is lodged at the lower end of the common duct some barium will enter the duct and outline the stone.

Test Meal.

Biliary infections may be associated with either a decrease or an increase of the free acid in the gastric secretion, but usually the former. Walton has found that in practically 50 per cent. of cases free acid is absent. If, therefore, in a stout subject with suggestive symptoms, free acid is diminished or absent the diagnosis of biliary trouble is supported; on the other hand, Cheney found hyperacidity present in quite a large group of gall-stone cases, so that by itself the test meal evidence is valueless.

Duodenal Tube.

Valuable evidence of the presence of infection in the biliary passages may sometimes be obtained by withdrawing samples of bile through the duodenal tube after the injection of magnesium sulphate into the duodenum. Whilst the accurate location of the infection in the gall bladder or ducts as described by Lyon is usually impracticable, the finding of lymph, pus cells, and organisms in the bile withdrawn gives positive evidence that a biliary infection is present and may thus confirm a tentative diagnosis. Further, the nature of the infecting organism is ascertained, and if active surgical treatment be contraindicated an opportunity for autogenous vaccine therapy is opened up. The course of the infection may also in this way be observed, and the repeated use of the tube with the introduction of a half-saturated solution of magnesium sulphate into the duodenum is not without therapeutic value.

Test for Bile in Blood Serum.

In many cases of cholecystitis there is a slight biliary obstruction from pressure on the common bile duct. Even when no jaundice is detectable in the skin and conjunctiva, bile pigments may be demonstrated in the blood serum. If 5 c.cm. of blood be drawn into a syringe containing 1 c.cm. of sodium citrate solution to prevent coagulation, the mixture centrifuged and the serum pipetted off, the latter will give with nitric acid the fine play of colours familiar in the test for bile in the urine. If, in the doubtful case, this test be positive, it constitutes valuable evidence of slight biliary obstruction.

Whilst these special aids to diagnosis may play an important role in some cases in making or clinching a diagnosis, they can only supplement, but never replace, the clinical data obtained from an accurate history and a careful physical examination. The latter must ever remain our surest guides to diagnosis, and on them we will mainly rely for the correct interpretation of any given case.

Diagnosis at Operation.

The final opportunity for completing the diagnosis will arrive when the abdomen has been opened. That the opportunity is not always fully grasped is evidenced by the number of cases in which a recurrence of symptoms follows hard on the operation. Little difficulty is found in assessing the pathological changes in the gall bladder. The crux of the problem is the common bile duct, and the diagnosis can never be regarded as complete until this has been exposed and its condition determined. Even should there be no calculus palpable, if there be any thickening or dilatation of the duct it should be explored first with a hypodermic needle and, if the bile withdrawn shows turbidity, by incision and probe.

Failure to detect and remove a stone from the common duct is the usual cause of recurrent symptoms after operation, and, where doubt exists, incision and exploration of the duct should invariably be practised. The condition of the pancreas, the appendix, the stomach, and duodenum must be investigated, as coincident lesions in these organs are by no means rare and may require to be dealt with, that complete recovery may follow. Only with good anaesthesia and a free incision can the complete pathological picture be displayed and adequate treatment be safely employed. Inadequate operation can only bring disappointment to the patient and discredit to surgery. The removal of several hundred gall stones will avail nothing if the one which was the real cause of the trouble be left behind. To remove one or more calculi and leave an infected, thickened, and functionless gall bladder may give the patient some relief but will not result in cure, and is evidence of a failure on the part of the surgeon to appreciate the intrinsic mural character of the gall-bladder infection. Timely pre-operative diagnosis and complete assessment of pathological change at operation are the two essentials for the successful treatment of biliary infections.

PERIARTERIAL SYMPATHECTOMY.*

BY

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THE basis of the theory of periarterial sympathectomy is dependent on the experiments of Claude Bernard, who found that in the rabbit, when the sympathetic nerve in the neck was divided, the arterioles dilated and the ear became hyperaemic; and when the peripheral end of the cut nerve was stimulated, the ear became blanched from constriction of its arterioles.

Attention was first drawn to the useful possibilities of this operation by Leriche of Lyons, who published his

* Read before the Malaya Branch of the British Medical Association at the annual meeting held in Singapore, April, 1924.

original account in 1913. He stated that the operation was first performed by his old teacher, Jaboulay, in 1889, who, however, did not publish his results. In 1921 Leriche reported sixty-four cases in which he had performed periarterial sympathectomy for various chronic lesions, with only one complete failure.

The operation consists of removing the whole circumference of the outer sheath of the main artery of a limb as high up as possible for about one inch of its length. This causes an increase in the vitality of the limb below the operation, due to the hyperaemia resulting from division of the sympathetic vaso-constrictor nerves which are believed to extend along the course of the arteries and arterioles in their outer sheaths.

It is not definitely proved that the sympathetic vaso-constrictors do extend along the arteries in the manner suggested, and in fact the contrary is asserted by some physiologists; nevertheless, there is evidence that such, in man, is probably the case. Leriche and others found that after periarterial sympathectomy of the femoral artery there was a temporary local constriction of the femoral artery at the site of the operation, and distally there was an elevation of surface temperature of from 2° to 3°, which lasted about a couple of weeks; also the blood pressure in the limb was raised as much as 40 mm. of mercury. On the other hand, several surgeons who have performed this operation have failed to find any elevation of the temperature or blood pressure in the limb following the operation. A similar rise of temperature has been observed in a limb after excision of an aneurysm of its trunk artery.

It seems probable that the continuity of the vaso-constrictor sympathetic nerves is broken by the operation, and the distal arterioles in consequence dilate. Whatever ultimately proves to be the real physiology of the operation, there is considerable evidence that the vitality of the part below the site of the operation is increased, as evidenced by the results that have been and constantly are being reported.

Arterial decortication has been performed for various surgical conditions, but its utility seems to be greatest and the results obtained most encouraging in cases of trophic ulcerations of the extremities; especially favourable results have been reported in perforating ulcer of the foot. In ulcers of the legs or feet it gives good results provided the ulcers are not very old or surrounded by much scar tissue. It has been tried with no inconsiderable success in Raynaud's disease, in frost-bite gangrene, ischaemic paralysis of the forearm, painful stumps, trophic contractions of muscles, and in some chronic cases of pains in the hands and feet (erythromelalgia).

I can find no report of the operatoin having been performed for the ulcerations of leprosy. In two of my cases (2 and 3) the results were remarkable. In each the leper had lost several of his toes and the stumps had remained ulcerated for six or more months; within two weeks or so after periarterial sympathectomy the stumps were healed, although the local treatment remained unchanged. This result, I think, warrants further trial in leprous ulcerations; it might prove, too, of value in Dupuytren's contraction of the hand, but I have not been able to obtain suitable cases. Decortication of the common carotid artery has been done for glaucoma and for trophic ulcer of the cornea, but the results are not sufficiently clearly reported to be of value.

The operation, it would appear, is contraindicated in diabetes, in renal, hepatic, or cardiac disease, and in arterial degeneration.

Case 1.—Chinese, male, aged 32. Three perforating ulcers of the sole of the right foot for five years. Various lines of treatment had been tried without success. There was a small patch of anaesthesia on the sole of the foot and the Wassermann reaction was slightly positive. Leprosy for long had been suspected, but repeated investigations failed to demonstrate the lepra bacillus. Operation was done, and in twelve days the ulcers were healed and the patient soon after went out of hospital back to his work.

Case 2.—Tamil, male, aged 38. Leper with two toes of the right foot destroyed by leprosy and the stumps ulcerated and raw for six months. Operation March 18th, 1924. Two weeks later the stumps were healed over, the patient walking about a week later. At present date the ulcers are still well healed.

Case 3.—Chinese, male, aged 21. Inner three toes of the right foot sloughed away, due to leprosy, and stumps ulcerated for seven months. Operation March 18th, 1924. Stumps healed over in two and a half weeks. Patient walked a week later, and ulcers remain healed to date.

Case 4.—Chinese, male, aged 31. For ten months he had a large spreading ulcer of the right leg. Operation March 20th, 1924. In a little over two weeks the ulcer was clean and healthy-looking and much smaller in size; in seven weeks the ulcer was very nearly healed and the healed portion was covered with very thick horny epithelium.

Case 5.—Chinese, male, aged 52. Had three chronic ulcers of the left leg for nine months. Operation March 20th, 1924. Result after seven weeks, very great improvement. He had been in hospital for six months with rest in bed and dressings previous to operation, with little or no apparent improvement.

Case 6.—Chinese, male, aged 33. Small ulcer on dorsum of left foot of the size of a five-shilling piece. He had been in hospital with treatment for seven weeks and then was operated on (March 27th, 1924) and three weeks later the ulcer was healed; recently he was discharged cured.

Case 7.—Chinese, male, aged 35. Several small ulcers at back of right leg which he had had for five months. Operation on March 28th, 1924. He was discharged cured on April 18th.

Case 8.—Chinese, male, aged 49. Ulcerated dorsum of right foot following a bruise of six months' duration. Operation March 29th, 1924; early in May the ulcer was well healed over with thick epithelium.

Case 9.—Chinese, male, aged 60. Several ulcers of the toes of the right foot of one and a half years' duration. Operation April 3rd, 1924. Result, middle of May, great improvement.

Case 10.—Chinese, male, aged 45. Ulcer left leg of eight months' duration. Operation April 4th, 1924. Very little improvement by the middle of May.

The operation is carried out as follows: The femoral artery in its sheath at the apex of Scarpa's triangle is exposed by a suitable incision. The femoral sheath is then opened and the artery isolated and held up with two small blunt hooks. Next the outer coat or sheath of the artery is incised vertically along its length carefully with a very sharp tenotomy knife for about one inch, and this outer coat is then dissected from off the artery all the way round and cut away. It is thin, but thicker than might be expected. Great care must be taken not to pull on the artery or to tear the sheath away, as there is a risk of tearing through the muscular coats of the artery, an accident that should not occur with reasonable care. Any tiny branch vessel should be secured with mosquito forceps and tied with very fine silk. All remaining cobweb-like tissue which is found still to be adherent to the artery is dissected away. The artery is thus completely decorticated of its outer sheath or adventitia. I have observed that as I dissected away the outer sheath the artery contracted markedly at the point of injury. This, in a few of my cases, soon gave place to a slight bulging of the artery, in fact the artery sometimes became decidedly fusiform in shape. The wound is then closed by suturing the deep fascia and skin.

In none of my cases has any bad symptom occurred, and whilst it is too early definitely to state whether aneurysm as a late result is likely to occur or not, my impression is that this is unlikely provided the operator has been careful not to damage the muscular coats. I have not seen any case of aneurysm resulting from this operation reported. In none of my cases have I been able to corroborate the suggested elevation of the temperature or blood pressure in the limb below the site of the operation.

The results so far encourage me to believe that this operation may often be valuable, particularly in the classes of cases already indicated and where the more usual forms of treatment prove slow or fail. It is, however, too early for me to speak with confidence of the final results of this operation. It is only recently that cases here have been subjected to this surgical method. In none has any alteration of the local treatment been made, in order better to be able to determine the direct effect of the operation.

NINETY-SECOND ANNUAL MEETING
OF THE
British Medical Association.
Held at Bradford, July, 1924.

PROCEEDINGS OF SECTIONS.

SECTION OF MEDICAL SOCIOLOGY.
ARTHUR MANKNELL, M.B., B.S., President.

DISCUSSION ON HAS THE NATIONAL HEALTH INSURANCE ACT JUSTIFIED ITS EXISTENCE?

PRESIDENT'S INTRODUCTORY REMARKS.

In order to attempt in any way to answer this problem we must first of all carry our minds back to the conditions of medical practice before the Act, both as affecting the medical profession and the classes of society now falling under its influence. We must bear in mind the claims made for it by the introducer of the bill. Mr. Lloyd George brought his bill before the House of Commons in a most eloquent and persuasive speech, full of his native Welsh imagery and backed by the utmost power of his political prescience. A glowing picture was drawn of the clouds of misery and sickness being dissipated by the sun of health and scatttered by the invigorating breezes of the National Health Insurance Act. After eleven and a half years' experience we may ask, Have these prophetic aspirations been fulfilled? Is the nation better and brighter and healthier for the very revolutionary step then taken? Is the medical service of the nation improved by the working of this Act and all the subsequent amendments introduced, together with the many regulations issued from Whitehall? Has the Act made for freedom and breadth of vision in medical work, or are we cabin'd, cribb'd, confin'd—bound in a system of petty details, irritating rules, and embarrassing regulations? Has the sturdy individualism of the general practitioner, the old family doctor of other times, been undermined and its very existence threatened by the welding together of many of our profession into one common service? Have we lost in personal efficiency and magnetic influence in order to have gained in corporate action?

Of the multitudes now deriving medical aid from the Act it was common knowledge that, before 1913, many deserving people were unable to command either efficient or sufficient medical treatment. They were either unattended or ill attended, and received scant assistance in the battle with the ills that flesh is heir to. Some were able to pay their way, some accumulated huge debts with their medical men, some were more or less favourably situated as members of old and well established friendly societies, and some received their help through the Poor Law medical service. Of those who paid their way it may be said that ofttimes it was with great difficulty and with self-denial in other ways. Many of them were, and still are, assisted by the system—prevalent especially in industrial communities—of weekly payments per collector. This resulted in many running family accounts which tended rather to increase than diminish as time went on, and in many cases were never discharged when the parents died. One result accrued, and that, curiously enough, was a certain crystallization of industrial practice. Now, in many cases, the younger persons of the family, on being insured at 16 years of age, choose a medical attendant of their own, and the family touch is lost. This may be a sign of independence, or to be in line with their fellows.

Again, we may consider whether the Act has tended towards thrift, or has it undermined, to any extent, the grit and independence of our Anglo-Saxon race? Time was when a man would take nothing from the State or municipality, and would strive to make provision for old age, for sickness, for family, and for education entirely by his own efforts. The advent of free education found many unwilling to accept its benefits, and much planning and self-denial still obtained that the boy or girl should have a better education than the parent at the hands of that parent. But time worked great changes, and one now hears very little of the demoralizing effects of State education. More and more have availed themselves of its benefits and feel no qualms upon the matter. So, too, with regard to the National Health Insurance Act. One hears less and less of the people who would rather pay than receive treatment under this system. The incidence of the great war and the economic conditions following thereupon have made great changes in the attitude of the general population towards State aid. They have not been without effect upon the moral fibre of our people, and no doubt have reacted upon the view taken by the participants of health insurance towards the benefits of the Act. Has the National Health Insurance Act broadened the outlook of the insured population in the way of showing that the health of the nation should be the nation's care? Or has it merely narrowed their outlook in the direction of instilling further the idea that the State should supply and the individual receive as many benefits as possible? If the vision of the people has been narrowed in this way the Act has not fostered the idea of community of interest and community of effort, the idea of each for all and all for each.

In many practices the separation of prescribing from dispensing was a great revolution. Although we still meet with those who declare that they do not get the same medicine as when supplied from the surgery, this must be for the best. If prescribing be conscientious the effect must be in favour of more thoughtful treatment. Also it should increase in the minds of the patient the respect for advice, as such, apart from the inevitable "bottle"—for the public still clings to the outward and visible sign and regards its bottle as the concrete expression of the advice tendered. The establishment of advice in its proper relation to treatment should make for an increase in the personal touch which has been somewhat endangered by the wholesale operation of the Act. The medical practitioner has been brought willy-nilly into a great scheme of national medical service; but after all, his patients are individuals with their individual needs and so appeal also to the individualism of their medical adviser.

The National Health Insurance Act has called into existence the panel system. Has this system proved that, in spite of any defects, it is far superior to any national medical service contemplated by many, both within and without the profession? Surely it is more elastic, and by the recent extension of the principle of free choice of doctor it must appeal more and more to the individuals involved. May we not say that it constitutes an arrangement based more upon the usages and principles of general practice, as we know it, than could be the case in any so-called national medical service with its inelastic and necessary limitations of regional distribution?

What, if any, tangible effect has been produced by the working of the Act during these eleven years upon the health of the nation as a whole? Has the possibility of earlier diagnosis and earlier treatment cut down the ravages of serious disease? Is its action reflected in the mortality tables and the records of epidemic disease? Have our industries benefited by less sickness and so by less loss of working hours? Our medical officers of health no doubt can give us some idea of this as shown in the records of their offices. Then, too, our hospital physicians and surgeons will be able to tell us of cases sent in earlier to hospital in a condition more amenable to treatment than in former times. Perhaps this will be more noticeable in the surgical than in the medical wards, but both should demonstrate the benefit. We hear of many cases thronging our surgeries with apparently very trivial complaints. Surely this should give an opportunity to our budding Mackenzies, searching out the beginnings of disease. Even with the cramped facilities of the 1921 record cards it is quite possible to look back upon our cases and see how the clinical record has developed and to note small facts which appeared to be of little or no importance fitting into the completed picture. As examples multiply, much useful material should accumulate and lend itself to the establishment or otherwise of hitherto accepted views.

And now as to tuberculosis. When the original bill was introduced great results were predicted as to the effect upon this terrible scourge. Have the results been in any sense commensurate with the prophetic vision of the Chancellor? If not, is the lack of progress due to any inherent defect in the system, or to a want of enthusiasm or discrimination upon the part of authorities or practitioners in carrying out the programme? A striking report has been issued recently by the West Riding County Council upon the whole question of the incidence, mortality, and treatment of tuberculosis. If carried out in full this scheme should make for greater efficiency in combating this great factor in our sickness and mortality records, and should prove an example and an inspiration to other authorities. The movement in this case seems to have originated with the West Riding Panel Committee, and especially with its chairman, who is with us to-day. We may therefore point to this progressive action as a direct result of the National Health Insurance Act. We hope for great things yet in the solution of this problem, and that the more intimate contact between the general practitioner and public health authorities brought about by the Act will not be without beneficent effect.

I have not applied myself to the answer to the great question before us, but have rather indicated by a series of queries many of the factors which go to the intelligent consideration of the question. I have not trenched upon the domain of the approved societies or the insured persons because we shall hear from those better able to speak for them what are their minds and attitudes towards the Act and its dealings. We all hope that the discussion will be free and untrammelled, providing food for thought and a better understanding as to future action in extending and improving this great system of national medical service.

ADMINISTRATION: (*a*) INSURANCE COMMITTEES.

BY

SIR WILLIAM S. GLYN-JONES.

I SHOULD like to thank you for the compliment you have paid me by electing me a Vice-President of this Section, and I appreciate the honour of being permitted to take part in your proceedings. The question "Has the national health insurance system justified itself?" is one in which I am intensely interested.

I have been asked to deal with the subject as the representative of Insurance Committees, but in what I say here I commit no one but myself.

At the last annual meeting of the National Association of Insurance Committees I attempted to give an answer to this very question, and I expressed opinions which nothing that has since transpired has given me reason to modify. I will venture to repeat some of them. We are here mainly concerned with that part of the scheme which I will call medical and allied benefits. The scheme compels insured persons to contract and pay for direct personal and individual benefits, including medical treatment, maternity benefit, and sick pay. Whilst not claiming that there is not room for improvement, I have no hesitation in asserting that, in the main, this contract has been fulfilled. I believe such would be the verdict of any impartial critic possessing a full knowledge of the facts. In the mass, insured persons are getting much better attention and medicine, and the medical profession as a body is receiving from the insured portion of the population a bigger income than was the case in pre-Insurance Act days. The patients are better served and the doctors better paid than they were. I do not say that either should be fully satisfied, but the improvement in service and pay as compared with things prior to 1911 would in itself justify the Insurance Act.

In 1922 insured persons were paid over eight million pounds in sickness benefit, and more than three and a quarter million pounds in disablement benefit; whilst it is estimated that over six million persons received medical treatment, involving forty-four million attendances. Maternity benefit has proved an undoubted boon. Sanatorium benefit is no longer a part of the scheme, but the special provisions relating to tuberculosis, incomplete as they were, enabled a substantial advance to be made in the prevention and treatment of that great scourge, and laid the foundation for, and made possible, the larger and extended efforts now organized by the public health authorities, so that the measures available under the Insurance Act to insured persons are now available to the whole community.

I have given you a string of assertions which I have no time to amplify, but if challenged I am prepared to justify each of them. The conclusion I draw is that, in so far as individual benefits are concerned, insured persons in the main have received better treatment than they could have secured for the amount of their own contribution, and the doctors have been paid for their services more than the insured persons left to themselves would or could have provided. Speaking generally, the individual patient and individual doctor has much to thank the system for. In the organizing of these individual benefits, Insurance Committees, or rather I should say their staffs, have played a great part, but it is obvious that Parliament intended that Insurance Committees should be more than organizations for the administration of medical benefit. In practice an enormous departure from the scheme, as conceived and as embodied in the original Act, has been made. On questions of policy Insurance Committees have been given little, if any, voice. The Ministry and the British Medical Association have settled the questions that really matter. Insurance Committees have done the routine, clerical—the donkey work, in fact; or rather, as I have said, this has been done most efficiently by the clerks to the Insurance Committees and their staffs.

I believe they could have done it just as well if they had been unfettered by their respective committees. But I have forgotten the work of the medical, pharmaceutical, and joint services subcommittees. Have they not solemnly sat in judgement as between doctor, pharmacist, and patient? Yes. Insurance Committees have policed the scheme—an important and necessary, but unattractive, function. This policing, instead of being, as it had practically become, the main function which committee members, apart from their staffs, perform, should have been subsidiary to far more important duties, which the Act contemplated would have been entrusted to these committees.

In my view, whilst it is undoubtedly true that the system has justified itself, it has far from fulfilled the promises made to induce Parliament and the country to establish it. Notwithstanding the success of the scheme from the point of view of individuals, important as that undoubtedly is, if that is all, then in my opinion the present elaborate Insurance Committee organization is not justified. The clerks, with the occasional help of a magistrate, could do the work. But what about the neglected functions by means of which the national health was to be so greatly improved, by and through national health insurance? I admit the State is indirectly benefited whenever an individual citizen is beneficially medically treated, but that indirect benefit by no means exhausts what was promised the country in return for the huge subsidy added by the State and employers to the individual insured person's contributions. In other words, whilst to the individual the goods have been delivered, the State is still waiting to receive what it has paid for. The whole organization, including Insurance Committees and Panel and Pharmaceutical Committees, was to concern itself not only with the routine work of administering benefit, but the Insurance Committee was to regard itself as a statutory health authority, specially concerned with the health of the insured population in its area. Important sections of the Act, containing in the main the preventive features of the bill, have been, to all intents and purposes, a dead letter. In a circular issued last year by the National Association of Insurance Committees they stated that "they considered that the time had arrived when the collective experience of the committees in the working of medical benefit should be reviewed. If the knowledge gained by Insurance Committees and Panel Committees were pooled, facts and data not in the possession of any authority would be available upon which future action could be decided. Obviously in this matter Insurance Committees are almost helpless without the active co-operation of the individual practitioners." The circular added

that it is clear that that co-operation would be forthcoming. If the authorities are neglecting this side of the work, it is perhaps excusable that the practitioner often regards his contract as completed if he does his duty by his individual patients. He is apt to consider that his duty begins and ends with the individual patient, but is this so? Would the State and employers' contributions be justified if such were the case? Is not that portion of the capitation fee he receives, which is found by the State and employer, paid to him for services which he is expected to render not only to the individual patients but to the community as a whole? Is he not a unit in the State health organization, the capitation fee being his payment as much for the services he renders to the State as for those which he gives to the individual insured patient? It is this consideration which justifies his being asked to keep medical records, for instance.

In one of their letters to the Ministry of Health the committee of the British Medical Association make it clear that they are alive to the value of this branch of the work. They say:

"The Committee, on the contrary, views the insurance medical service as having been set up not merely to assure medical attendance on certain wage-earners when they become ill, but to promote the national health by having regard to preventive as well as curative methods, by facilitating research into the beginnings of disease (for which such a service obviously offers unrivalled facilities), and by making such investigations and reports on health matters as the Ministry of Health might properly require."

They express the opinion that some of this work has "not yet developed very far."

It would be an impertinence on my part if I attempted to speak to this audience of the importance of the pooled knowledge, data, and experience which should, through the Panel and Pharmaceutical Committees, be in the possession of Insurance Committees. The point is well emphasized by Sir George Newman in his last annual report, in which he said:

"There is a wide prevalence of ill health in the community, due to general sickness, invalidity, and physical impairment, which in bulk provides the chief burden of disease and disablement, and there is a great burden of disease which incapacitates and cripples to a serious extent and yet finds no place in notification or death returns. It is largely unmeasured and unregistered, and yet it is the principal cause of physical inefficiency. Much of it lays the foundation of mortal disease, much of it is preventable, and all of it constitutes a part—perhaps the main part—of the health problem of the nation."

The national health insurance system will not be fully justified until all taking part in it co-operate and co-ordinate their efforts in tackling what Sir George Newman describes as "perhaps the main part of the health problem of the nation." It has been unfortunate, though probably it was inevitable, that the best brains in your profession have been so much occupied in the recurrent wranglings over remuneration and the details of medical regulations. Some people seem to think that "good doctoring" can be secured by some mysterious contract, the more mysterious because to learn its terms you must start with the Act itself, wade through the Regulations, and, when these are mastered, find the rest in the actual document signed by the practitioner. Altogether these purport to give a kind of specification of the services which are to be the subject of the contract—the surgery hours, the size of the panel as well as of the surgery—for all the world as if you were contracting for the purchase of a machine, or for the supply of coal.

The last thing you can do by means of regulations is to convert a grudging or incompetent doctor into a keen, tactful, competent practitioner. These paper controls may have their uses, but I fear too much importance has been attached to them, and far too much time and energy spent in their preparation. Doctors possess their fair share of human nature, probably no more or less, and it is folly to neglect the motives which actuate average human beings.

My recipe for a good service would be to provide such conditions of, and remuneration for, medical treatment under the scheme as will result in practitioners being as anxious to secure and to retain insurance patients as they are where private patients are concerned. If, in addition, you educate your insured person so that he can recognize efficient treatment, then, with the patient's freedom of choice and right to change, you can in the main leave the rest to the forces of competition and the ordinary laws of supply and demand.

We must all be thankful that your profession and the Government are to have a rest from bartering. Perhaps there is now some hope that the Government, Insurance Committees, and your great organization, will be able to take what I believe to be a "long view," and that, either with or without the Royal Commission, we shall all be soon engaged in administering a service of which the profession and the State will be proud.

ADMINISTRATION: (b) APPROVED SOCIETIES.

BY

ALDERMAN FRANCIS ASKEW, J.P.

The System.

THIS question is, and raises, an eminently pertinent proposition, and one which, it is respectfully submitted, is capable of a clear and unequivocal reply. The authors of the law of national health insurance set out with the object of providing primarily—

(1) For dealing on extensive lines with treatment and financial support for a large population whenever suffering from sickness, disablement, and other contingencies of life, by means of a rather technical and complicated system; and

(2) For the promotion of the health of the community in general by preventive measures against disease and the spread of disease.

In the year 1911, when the first and principal Health Insurance Act passed into law, there existed in the country a widespread voluntary system in which provision was made against certain expectancies in life, well known as friendly societies, which had been for over a century recognized by Parliament, and strengthened in their development and benevolent operations by later enactments, under which every well ordered friendly society, or branch, was registered and to some extent controlled. In 1911 the members of the friendly societies of the United Kingdom had an enrolled voluntary membership of approximately five million adults in round numbers, composed (except as to only a small section) of members of the industrial population. The main objects of the friendly societies provided for financial benefit in the case of the sickness of their members, including accidents in pre-workmen's compensation days, medical attendance for members, and stated mortality allowances to provide for the orderly burial of members, members' wives, and widows. Benefits in sickness were at varying rates according to the character of the areas and the duration of the disability; sometimes the benefits were restricted in amount as in their duration. The payments made by the members for the maintenance of the objects correspondingly varied in like conditions as to benefits. This outline gives shortly the main provisions voluntarily aimed at by the friendly societies. Their constitution and methods of administration differed considerably in detail, but on the whole the results generally achieved by them were highly appreciated by observers, they were satisfactory to the members, and they themselves gained valuable experience in the exercise of their unfettered control in the management of their societies. Thus was a wholesome measure of public good indirectly effected by them in the administration of their affairs, which constituted a great business. This may be seen at once by the fact that these voluntary societies have (entirely outside health insurance) accumulated £60,000,000 in funds.

The effect of the inauguration of national health insurance was to bring into compulsory insurance altogether nearly 15,000,000 people, which number included nearly 5,000,000 of the members of the registered friendly societies, between the ages of 16 and 70. All manual workers were compulsorily brought into the scope of the new scheme, and also non-manual workers whose salary did not exceed £160

per annum (a limit now raised to £250). Health insurance finance is provided by funds in a threefold way—namely, a weekly contribution by employers and employees, and a contribution by the State. The contributions of the insured persons are made by way of health insurance stamps affixed during the weeks of their employment to periodically issued stamp cards. The State scheme provides up to the age of 70 for sickness and disablement benefit (not for accident, liability for which is expected to be met under the Workmen's Compensation Acts); at age 70 the insured person is provided for under the Old Age Pensions Act, at present subject to a means limit, and medical benefit for all insured persons throughout life. The sickness benefit varies in amount for men and women, and also as to additional sums payable by such approved societies as were shown at the first valuation to have disposable surpluses. No mortality provision is made under the health insurance scheme; but, on the other hand, the scheme provides for maternity, a provision which was not ordinarily made by friendly societies, except in the case of a few women's societies or branches.

The original Act provided sanatorium benefit for those who suffered from tuberculosis, and the opinion was frequently expressed at the first that consumption might be stamped out if nationally dealt with, and made effectual in co-operation with the schemes of the local governing authorities of the country. It would appear, however, that one of the effects of the great war has been to increase largely the number of cases for treatment, and sanatorium provision has since been cut out of the system of health insurance, while the local authorities have had imposed upon them the duty and responsibility of dealing with this disease. The problem of providing a comprehensive and all-embracing system of treating consumption remains, however, to be solved.

This is a short statement of the scheme of national health insurance as now administered by important Government departments in England, Scotland, Wales, and Ireland, and by the agency of societies which include practically all the friendly societies approved by the Government for that purpose.

The Results.

What may be said as to the results of the system after the experience of just twelve years? It scarcely needs to be observed that the organization of this immense department of national health insurance through the agency of approved societies has been a task of enormous dimensions and extraordinary detail, scarcely conceivable by people who are unfamiliar with the complicated nature of the work. All the difficulties and problems obviously could not be seen at the first, nor provided against. Let me mention one problem as an example: the scheme brought in a large number of women workers, and during the war the number was greatly multiplied. Prior to 1912 there existed but the scantiest information upon which adequately and satisfactorily to base the financial arrangements for meeting the sickness and other liabilities of this comparatively new and unknown factor. It is safe to say that, after all, the results of the working of this difficult item of health insurance have come out fairly well. But the experiment was an anxious one, and there is no doubt that the actuarial advice tendered to the authors of the Act on this head was of a wisely careful character.

Weaknesses and abuses in the system as a whole may exist; but substantial improvements have been effected. The reduction in the number and character of circulars, books, and regulations has had a simplifying effect upon administration. When, however, the magnitude of the scheme of health insurance is recognized, and the comparatively short time during which it has been operative, is it not fair to suggest that the date is yet early for the introduction of drastic changes, or for submitting any amplification of the scheme into one of public assistance against other complicated disabilities of our intense social system?

What is actually being disbursed in meeting the various benefits under the Act may be fairly understood from the statement recently given in the House of Commons by the present Minister of Health as to the payments made in England and Wales for the year 1922, the latest year for which figures are available, namely:

	£
In sickness benefit	8,273,000
In disablement benefit	3,287,000
In maternity benefit	1,606,000
To insurance practitioners for medical benefit	6,317,000
	19,483,000

The good done by the distribution annually of large sums as represented by this great total for the benefit of the needy insured population is incalculable. In the year 1922 the accumulated funds under health insurance were stated by the Ministry to be £90,000,000 for meeting the incidence of future claims, in view of sickness experience, which grows with the advancing years of life. The scheme of health insurance has had the effect of affording to the lives of a large population a real sense of security which cannot be tested in tabulated form, while their health and comfort, as a result of the care, support, and treatment received, have been substantially enhanced. Compare this with the previous position of some ten millions of our people who prior to the introduction of this insurance were quite outside the favoured ranks of membership of the friendly societies, and were therefore in a state of unhappy unpreparedness, possibly in too many cases through their own fault.

It may be asked, What is the administrative cost of insurance? Here again we are indebted to the inquiring minds of members of the House of Commons, for in the month of May last the Minister of Health, in answer to a question, informed us that for the year 1922 the actual sum spent on administration in England and Wales was as follows:

	£
Approved societies	2,913,000
Ministry of Health and other Government departments, including the Audit and Actuary's Departments	1,010,000
Insurance Committees	378,000
	4,301,000

Excluding Government grants-in-aid received during the year from the actual contributions and expenditure of Government departments on administration, the ratio of administration expenses to contributions from all sources was 12¾ per cent.—for convenience say 13 per cent.—a percentage which cannot be said to be abnormal.

The Conclusion.

The subject submitted in the form of the question: "Has the National Health Insurance Act justified its existence?" I answer unhesitatingly in the affirmative. In my opinion, if the question were now put to the insured population by way of a referendum, their reply would be an emphatic approval of the major principles underlying health insurance. Had a referendum been taken—were that provided for in our British constitution—at the time the principal Act was put into operation, it is doubtful whether it would have secured the endorsement of the people. Imperfect as the Act and its administration may be in some respects, yet the results to-day are such that I believe the insured population would never vote for a repeal of the Act, which has upon the whole amply justified itself.

There is possibly a case for inquiry into the merits of its administration, and in the scope of national health insurance—a Royal Commission would seem to be a slow moving machine for achieving the purpose—yet nothing but good would emerge from an impartial and comprehensive investigation of the whole scheme. It was admittedly a daring experiment in British legislation when first introduced, but its influence and general results are such that any idea of repeal or of a turning back on this road of beneficent social reform would, I firmly believe, be unlikely, unthinkable, and unwise.

THE INSURED PERSON: MALE.

BY

MR. TOM HARLAND,
Bradford.

SINCE the commencement of the Act in 1912, as an insured person I looked upon it at first with rather an indifferent feeling. Mr. Lloyd George made himself famous when he brought the Act into being, and I well remember his promise of ninepence for fourpence, and of other good things to follow.

Now I wonder if we are getting that ninepence. The Act has been changed so much that I almost believe that we insured persons are getting just a bit out of it, and, being like Oliver Twist, we are always asking for more. I think the time will come when dental and optical treatment, convalescent home and hospital treatment, will be definite supplementary benefits to be had for the asking by everyone. Some societies are already giving these benefits, and they are very much appreciated by the recipients. I have had some of these benefits and know the value of them from experience. I believe some doctors think that they give the best service; they certainly do well for the panel patient up to a point, but some give it rather grudgingly, as if they were not paid enough for it; there are others who give of their very best, both in skill and attention. I myself have every cause to believe that, but for the timely attention of my panel doctor, when I was taken ill with a perforated duodenal ulcer, I should not be here to-day. I should very much like, if that gentleman is here to-day, to thank him from the bottom of my heart, and still again to thank the brave doctors at St. Luke's Hospital, Bradford.

Some doctors, I am sorry to say, do not give their best, and this helps malingerers to draw on the funds of societies, to the detriment of the good member. Now just imagine a doctor allowing a patient to throw on the funds of his society with a certificate marked "Constipation." I saw this person, and my opinion was that a little work and exercise would have been more in keeping; and also another case, where the doctor told a patient to return to work as he would be all right; the man did so and collapsed within an hour. These cases show that had the doctor done his duty as a servant of the State should much trouble could have been avoided.

I know that there are very few cases where doctors get reports against them. Why? Because so many insured persons are afraid of a doctor. It must be that old customs are still recurring, when doctors were looked upon as men who dealt in witchcraft. Thank goodness these days are altered, and we find that doctor and patient are conversing with each other, quite comfortably, the doctor being a human being, and, of course, generally a more prosperous man than his predecessor of the dark ages.

I do wish some doctors who seem to have an overcrowded panel would think seriously of getting assistance. Surely there are plenty of young doctors ready and willing; I have noticed one or two doctors who have already secured assistance. I am sure it must be more agreeable to work with a companion, and patients are soon asking to try the new doctor. I say give the young doctors a chance—they will soon prove their worth.

It is really disappointing when one goes to the surgery to find a long queue all waiting to see one doctor. How much better with two! All we want as insured persons is the best service for our weekly contribution. It may seem small individually, but I am not trying to deal with finance, so will leave it at that.

There is an aspect of national health insurance that I should like to mention. The organization of national insurance is to me wonderful; it is exact and precise, even to a single contribution stamp or the detection of a wrong date of birth. The point I wish to make is that considering all the time, thought, and money which are expended in checking and auditing financial matters relating to approved societies, is it not strange that the largest liability which is carried is allowed to go on year after year without any check or periodical systematic examination? I think all insured persons should be called upon to submit themselves for audit with respect to their health, say, at least every five years. Why not preventive measures as well as curative measures—to say nothing at all about the help it would be to yourselves in your practice? Most insured persons do not visit the doctor until they are compelled—often they come too late for a satisfactory result to be achieved, simply because they are frightened, and probably get the idea into their heads that their next duty will be to make their wills. The best medical advice one can get is not worth much if it comes too late. Therefore if the health of insured persons could be audited regularly with the same precision and accuracy that the financial and statistical matters are, I almost think that the duties of medical gentlemen would be very greatly lightened, and the benefits that would accrue to the health of the nation would be worthy of the cost.

In conclusion allow me to say that I am a member of the Manchester Unity of Oddfellows, and I try to take an interested and an intelligent interest in the work of my lodge, and in the administration of the benefits of the National Health Insurance Act. The friendly societies movement has high resolves and ideals, and the practical operation of these qualities must have made some impression on the life and health of the nation during the past century, and taking a very broad view we have very much to thank the medical profession for—your predecessors entered into the spirit of these ideals and were content to share in the common experience that resulted; that your profession did much to help forward this work I cannot but admit. With the advent of national health insurance there is no doubt that on both sides—doctor and patient—a new view prevails to-day. Why should it? Human nature alters very little, there are still the aches and the pains to be endured, and to those who have the skill, the nerve, and the disposition to relieve and cure, unspoken gratefulness and loving appreciation is the reward. In every walk of life there are differences of opinion, especially on financial matters and remuneration and services retained or rendered; but doubtless you may look upon me as a typical victim, and, on the other hand, you may allow me to think that I do something towards your petrol expenses. I do thank you sincerely for this opportunity of representing an insured person, and I extend my good wishes to you all for the success of this conference. I also wish to thank the local Insurance Committee, and also the chairman for his kind help, and with feelings of gratitude pay my sincere tribute to the triumphs that medical science has accomplished.

THE INSURED PERSON: FEMALE.

BY

MISS FLORENCE GODFREY,
Birstall.

MY part this morning is to speak for the woman worker. I believe that during the preparation of the Act women were found to be most difficult to legislate for, because very few women before then had made any provision for sickness, whereas a large number of men were provided for through the different friendly societies, etc., and valuable and helpful information could be obtained for them which was not available for women. Many people were afraid of insuring the women, and predicted all sorts of terrible things to happen, but although I am aware that there have been some who have not done altogether the straight thing, and that there others who are still bitterly opposed to it and would not be insured if they were not obliged to be, yet both these classes put together are not sufficient to worry about, and I am sure that the majority of insured women have tried to do the right thing and have only applied for benefit when it was needed; and after reckoning all special difficulties and imperfections I feel I can say that, even for women, the Act has justified its existence.

I need not say very much about the more obvious benefits. The sick pay, although not a big amount, is a very useful benefit, and has prevented scores of women having to accept charity during illness, and has largely eliminated collections in factories on such occasions. Then we are all entitled to qualified medical assistance as a right, and many are now able to have professional assistance who could not afford it before. It is not even necessary to be too ill to work,

and I believe that has done a lot to prevent more serious illness—having the right to see the doctor before the illness has gone too far. The maternity benefit is also a very useful and much appreciated benefit, and has the advantage of helping the child as well as the woman herself, and giving the child a better start in life than it would otherwise have. Then some little has been done towards lessening England's white scourge, tuberculosis; and we hope more will be done in the future, and that cases will be treated in the earlier stages when there is some chance of a cure. You know much better than I do the number who were sent for treatment, but it was too late, the trouble was too deep-rooted. Still, we all know of lives undoubtedly prolonged by sanatorium and other treatment.

Perhaps the Act has justified itself more by the need it has revealed than by actual accomplishment. As a record is kept of all sickness we can now obtain information as to the average sickness per member, what kind of sickness is more prevalent, whether people engaged in different industries are affected by their work, and all this should be a help towards devising preventive methods in the future. In September, 1921, I had the privilege to be sent by my employers, J. T. and J. Taylors, Ltd., Batley, to an industrial conference at Balliol College, Oxford. One of the lectures was by Sir George Newman of the Ministry of Health, and his subject was the health of the worker—a lecture I shall never forget. I could quote widely from his lecture, but I will only use one illustration. He told us that in 1920 the amount of sickness and disablement benefit paid out to insured persons alone amounted to 14,000,000 weeks, or 270,000 years, and that for the eight years up to that period the loss of time through sickness varied from 260,000 to 270,000 years per annum. These figures are staggering, and if there had been no Insurance Act they could not have been obtained so easily, and they show that much is required yet before we can claim to be a healthy people.

The Act has given working women the chance to educate themselves in public work of a national character, and women should be encouraged to take an interest in this matter, which so vitally affects them; and wherever possible women's benefits should be administered by women, as there are so many special difficulties in connexion with women that perhaps we could best deal with them. The most difficult woman under the Act, I believe, has been found to be the married woman, and the Act is very complicated with regard to her. Here is where difficulties arise that are peculiar to women. The Act needs amending as regards married women and pregnancy. Some women get doctors' certificates and are receiving sick pay all the period, and doing their household work, while others who try to do the straight thing receive nothing but the maternity benefit. If a woman is in receipt of sick pay she should be incapable of work as in ordinary sickness.

A lot could be said about the administration of the Act, and I wonder sometimes if those who administer the different benefits realize that they are dealing with our nation's greatest asset—the health of the worker—and if they give the sympathy and impart the human touch that they could do. For instance, a lot of women are not satisfied with the panel system. They say they do not receive as good treatment as they would as private patients, and although I believe that a lot of doctors treat their panel patients in a fair manner, yet I am afraid there is real ground for complaint. It is not so much that they do not receive attention, but only insufficient attention—what would be considered trivial if they tried to report them; but those trivial things can be extremely annoying, and although perhaps no complaint is made, insured persons know when they get their due; and when one hears the complaint that it only takes as many minutes as there are panel patients for some doctors to attend to them, even the most ignorant know they are not receiving the treatment they have a right to expect.

As our part is compulsory, and we cannot help being insured if we work, we feel we have a right to the best, and that there are too many restrictions for panel patients—such as different surgery hours, not allowed to send for the doctor during the night unless it is almost a matter of life and death; and although I agree that a doctor should only be sent for at night in serious cases, yet a panel patient is just as liable to sudden illness as an ordinary patient, and there should be no restriction there.

Then, in the case of medicines, there should be no limit as to cost. The patient's need should be the deciding factor every time, and the best of professional skill should be at our disposal; and I think some sort of inspection would be helpful at times to try and find out if medicines are up to prescription, and also if they are dispensed correctly.

To me, he who is able to add the touch of humanity in administering the different benefits—whether he be doctor, chemist, or society official—will be the most successful. In other words, justice should be tempered with mercy and kindness, always remembering that we are dealing not with those who are whole, but those who are sick. Some would have us believe that approved societies have altogether failed in this direction, and recommend that there shall be central units formed and all in that area become members of such unit. I do not agree with this suggestion; although perhaps the human side is not now as fully developed as it might be, yet, in my opinion, if that course were adopted the human touch would very soon be lost completely, and we should all be just a certain number on the register and nothing more. And besides, it would rob us of almost the only bit of choice there is—that of choosing our own society.

I sometimes think that the Act has hardly the right to be named "National Health Insurance" because so many workers who ought to be insured are not—such as agricultural workers, those who work for the large clothing factories in their own homes, hawkers, etc. Perhaps there are special difficulties in the way, but these should be overcome, as I feel sure they would be better under the Act.

I have said nothing about the special benefits which have been available since the valuation for those who had a disposal surplus. Some of these are very good, but I prefer benefits in kind rather than cash, as they are then spread over a larger number. Will you pardon one reference to my own society? Our main special benefit is convalescent benefit. We have a home of our own at St. Annes-on-Sea, and we send our members when convalescent to this home, and it is a benefit of which those who have tried it cannot speak too highly.

My time is expired, but as an insured woman myself and a worker before national health insurance, I do think that the Act has justified its existence, and, rightly and sympathetically amended, will do, still more in the future. If those who have the framing of these different amendments and those who have the Act to administer would keep in mind Ruskin's great truth, that "the nation is the richest which has the most healthy and happy human beings," and also remember that they are dealing with what is the real capital of the nation—the health of its workers—and also try to educate the people to take an interest in these matters, to teach them to do all in their power to keep healthy, and to prevent disease (and let us realize it is a chance where the strong can help the weak), then there should be a still greater future in store.

THE MEDICAL PROFESSION: (*a*) CONSULTANTS.

BY

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I HAVE been asked to answer this question from the point of view of a consultant, and find myself in the difficulty that I have really no *locus standi* as a representative of consultants as a class. My only qualification is that I have been more or less intimately acquainted with the working of the Act since its conception, and as one who has had no direct financial interest have had opportunities to form independent views.

In the first place, there can be no doubt about one thing: the Act has been one of the greatest advances in administrative medicine in our time. It has brought some organization into what was a chaos. It was a revolution which, by means of evolution, will eventually become the most important factor in the public health.

It is a fact that on one occasion a member of Parliament asked the Minister of Health if he could not grant to some of the middle classes one of the benefits which the working classes were already receiving under the National Health Insurance Act. I refer, of course, to insulin. Here we had a great advance in scientific medicine which, in a marvellously short space of time, thanks to the activity of the Medical Research Council and the Ministry of Health, was made available to the working man. If anyone still clings to his doubts as to the Act having justified its existence, let him try to throw his mind back for a dozen years and try to imagine the club patient receiving insulin from his club doctor. However conscientious the club doctor he could never in justice to his own family have given insulin at a cost of fourteen shillings a day to a club patient. This is, however, one of the extreme examples where the individual manifestly owes his life to the Act. It is not fair, perhaps, to draw conclusions from the case of insulin, any more than it is fair to judge the panel service by the commercial genius who invented the celebrated early door. I will leave this aspect of the matter, as I see it is to be dealt with by an insured person.

As an example of the value of organization I would like to point out the public value of the Local Medical and Panel Committees. For almost the first time we have had properly organized professional bodies representing the ordinary medical man. I use the term "properly organized" because they represented all the medical men concerned. These committees have had to meet lay committees and thrash out difficult questions where professional interests clashed with others. The professional side has learned to appreciate the layman's side better than before, and the layman has met us without giving anything away but in a fair spirit. I believe that the satisfactory solution of the difficulty about the transfer of practices which has relieved the minds of so many hard-working doctors was first conceived in the mind of a lay official.

The public opportunities of these committees are as yet hardly realized. The Sheffield Committee has co-operated with the University in organizing post-graduate lectures and demonstrations. It has suggested subjects for lectures to the University authorities. It gave £1,000 to the University towards the equipment of the field laboratories of the new Department of Pharmacology. Recently, when the epidemic of encephalitis lethargica struck the city, it organized a lecture and series of demonstrations by Professor Arthur Hall. Another Panel Committee with which I am acquainted is endeavouring to think out a scheme for laboratory services for the insured person. The Leicester Panel Committee is endeavouring to organize the insulin treatment of diabetic patients. The Panel Committees are well organized bodies, and have taken means to ensure co-operation between themselves, and to have such committees all over the country thinking about the administrative problems of medicine is a great public advantage. As Panel Committees are now trained to take co-ordinated action, and together form a strong fighting force, it is quite possible that on some future occasion they may be the means of compelling public authorities to take the right turning in matters of public health.

I know less about the approved societies, but in the early days I acted as referee for one local society under a scheme approved by the local Division of the British Medical Association. It appeared obvious that most of the cases were really the victims of improper nutrition and bad surroundings, and one day I suggested in a report that it might be a better use of money to send these cases to a properly managed convalescent home in the country. That society is one that gets things done, and soon possessed two of the best managed convalescent homes in the country. Employers found most of the capital, and, what is perhaps more important, spent it to the best advantage. In this case the Act has furnished one opportunity for employer and employed to work together. There are gross abuses in some approved societies, but this is outside my sphere.

What are the usual relations between panel patient and doctor? A panel doctor was persuaded to stand for the City Council in Sheffield, and did so in the district in which he practised. He got in with the largest majority ever polled in a municipal election. When he retired his party lost the seat. In this case the personal popularity of a panel practitioner was put to the vote. There have been a good many sneers at the panel practitioner, perhaps especially at the increase in motor cars. After all, what does it mean more than that the panel patient is seen by a man who is not tired and footsore with walking miles through sordid streets? The patients realize this better than the gutter press.

I am convinced that the relations between panel patients and their doctors are exactly the same, in many respects even better, than those between doctor and patient in higher classes of society. The patient can choose his own doctor, and in districts where there is open healthy competition he has the opportunity of choosing a good one. The Act was passed on the assumption that the average doctor was a decent fellow and the average working man likewise. There are exceptions on both sides, naturally, but they remain exceptions, although perhaps rather noisy ones.

Is medical work among the working classes improving as a result of the Act? There is no reason to doubt this. Nowadays our best graduates make no bones about going into panel practice. There must be hundreds of able men engaged in panel practice who, ten years ago, would have starved as embryo consultants rather than face the indignities of club practice, and who had not the capital to enter a good middle-class practice. The results are obvious to the hospital consultant who will use his out-patient room to its best advantage as a consultant department. Cases come up in increasing number with a record and a request for assistance in diagnosis and suggestions for treatment. One is expected to return the patient and the compliment of the letter. The out-patient rooms are filled with worthy diagnostic problems and not with dissatisfied club patients. A surgical colleague recently drew my attention to the great increase in the number of gall-stone cases which come up at a much earlier stage. He thinks that one of the reasons is that the early attacks of pain are severe but last only a few hours, and that formerly the doctor was never summoned, whereas now he is sent for and makes a diagnosis at the only time when it can be made with certainty. There is no doubt about the fact, and I think the explanation is probably true.

Personally I foresee that at an early date the hospital out-patient departments will break down badly under the strain, and some kind of consultant service will become absolutely necessary. I have at times a dream of the future when the vast hidden funds of the Insurance Act will be loaned to hospitals to enlarge and develop, and the money returned to the funds in services rendered by a properly equipped and organized team of paid consultants seeing insured persons under more leisured conditions.

Can the service of the panel practitioner be improved? I think that all will agree that it should be the endeavour of everybody to raise the standard as high as possible. Is it not a mistake to assume that any doctor is good enough for the responsible and lonely position of the panel practitioner, facing difficult problems concerning life and death in an isolated surgery? I make bold to say that he ought to have at least six months in a hospital after graduation. When we get a Minister of Health sufficiently bold to suggest this and put up a bar there will be a fight with the protagonists of professional liberty, but the insured person will win. Another advance would be an attempt to remove some of the rust which comes from years of more or less isolated work. Why not organize a course of practical post-graduate instruction in London and give some small financial assistance to men who attended, and possibly a money prize for the best essay on the practical lessons to be learned from the course (with criticisms)?

The question of locumtenents is one of some difficulty, especially in isolated districts. The principal assumes responsibility in theory, but could not the Ministry usefully organize a small body of young aspirants to the service who would serve as approved locumtenents in case of illness, as temporary assistants in times of epidemics, or as a mobile column in the study of small epidemics on an intensive system, and in the slack season to liberate a

certain number of men on study leave? I think some such plan would almost pay for itself, and would serve as an excellent training ground for some of the super-practitioners of the future.

Criticism of the Working of the Act.

Taking a broad view, and excluding the few examples where medical men have proved to have commercial instincts stronger than their professional instincts, I should say that the serious tendencies are the increasing use of drugs, the increase in neuroses, and, finally, the lack of consultant facilities.

The bottle of medicine habit was not caused by the Insurance Act, but it has been fostered. This result, which I am informed is already a source of anxiety from financial reasons, is not due to any one particular fault. The popular conception of the beneficial working of the Act is something like this. John Smith has a troublesome cough which, if neglected, may lead to tuberculosis. He therefore goes to his doctor and receives a bottle or two of medicine which cures the cough and averts tuberculosis. The real facts of the case are that he has a cough. If it is due to tuberculosis it will not get better; but he should go to his doctor, who should discover the tuberculosis (one of the most difficult problems in diagnosis) and should put him under proper treatment before the case becomes hopeless. The bottle of medicine is only a symbol, but it has become an idol. The Greeks of two thousand years ago rightly believed that diagnosis, prognosis, diet, and regimen were the really important things in medicine, but to-day we have the strange anomaly that the proper working of the Act is judged largely by the promptitude with which John Smith receives his bottle of medicine. The nation as a whole believes that the bottle of medicine is a convenient means of avoiding the results of all forms of sin against the laws of hygiene, and obviates in a simple and convenient manner the necessity for regimen and diet. This bottle superstition will be difficult to eradicate. The last person who ought to take drugs is the chronic complaining neurotic, but under present regulations it would be highly dangerous for a panel practitioner to refuse him his bottle. Years will be required to bring about reform, because it is against the public's idea of its own interests, and all we can do at present is to attempt to redress the balance in favour of brains against bottles. I will make a suggestion later.

The problem of the increase of neuroses is one of most serious national import, as it costs millions a year in the working of the Insurance Act, the Workmen's Compensation Act, and the Pensions Warrant. The education of doctors and politicians in the matter of neuroses is vitally necessary. The loss of Dr. Rivers to politics was as great as the loss to medicine. This problem of neuroses is the storm centre of all the controversies about loose certification. We have the paradox that every neurotic is really ill and that nevertheless every pensioned neurotic is a parasite upon society. "There is no question whatever that the perfectly legitimate and praiseworthy measure by which those disabled as a result of the war should receive monetary compensation has through the highly complex nature of psycho-neurosis led to the actual production, and still more largely to the prolongation, of disability to work." Rivers used these words in reference to miners' nystagmus, and the same principle applies to the working of the National Health Insurance Act. There can be no reasonable doubt but that the availability of sick benefit under this Act—just as the presence of a pensions fund and the Workmen's Compensation Act—has fostered neuroses. All alike have rendered more easy the "flight into illness" as an escape from the intolerable mental conflicts between natural instincts and the social conditions which threaten the fulfilment of instinctive strivings.

In warfare the conflict between the instinct of self-preservation and the exigencies of military duty caused the neuroses unfortunately labelled "shell-shock." In civil life it is well recognized that the conflicts between the sexual instincts and social barriers cause neuroses, and it is practically certain that other instincts also play an important part. Check the roaming instincts of a dog by keeping him constantly on a chain and he will get a neurosis, as recently pictured on the hoardings; and similarly, by chaining a young man to a monotonous machine for overlong hours a neurosis is produced. The excessive dangers of a collier's calling must be correlated with the numerous neuroses from which miners suffer. I think I have noticed a strong neurotic tendency in those men who work in electric cranes carrying ladles of molten steel along the roofs of our foundries. Perhaps, however, the neurosis which at present gives rise to the most cynical comment is that which occurs when a man's instinct for preserving his home—let us call it his nesting instinct—is threatened by the cessation of the "dole." Trying to solve an impossible problem, his head aches, he cannot sleep at night, his food disagrees with him, and little wonder that when he goes with his troubles to the doctor he looks ill enough to satisfy an inquisitor. Personally I am convinced that the certificates given in these circumstances are genuine enough. The wonder is that there are not more of them. The only solutions to the problem are either to breed a race of men with the instincts of the cuckoo—which is, curiously enough, one of the most deplored tendencies of much modern legislation—or to mend society in some way so that the conflict does not arise. In the present circumstances the panel doctor must of necessity be a temporizer. Drugs will not help him. Alcohol has been tried on a large scale, and the cure was apparently worse than the disease. All that appears to be possible within the Insurance Act is to help to stiffen the attitude of the individual doctor, and this is as much in the interests of the patient's recovery as in those of the approved society. I would suggest the following means to this end.

1. That there should be some means whereby the approved society can ask a doctor to have any patient examined by any other doctor of his choice (the doctor's choice) for a second certificate. I think this would act in practice, not by reversing the first doctor's certificate, but merely by strengthening his hand with the knowledge that a second medical man in whom he has confidence has been unable to find anything organic.

2. The present easy means of transfer from doctor to doctor should be supplemented by making it compulsory for a doctor losing the patient to indicate on the record card whether the patient's transfer has been preceded or not by the refusal of a certificate, or possibly by making the transferring patient sign a denial or affirmation of certificate refusal.

3. Discouraging the use of drugs as much as possible. If a doctor were to treat neuroses on what is generally recognized to be the best lines without the use of drugs he would get into serious trouble with the lay authorities, who look upon the administration of drugs as the chief end of medical benefit. His position would be still worse if at some later stage it should be found that some organic disease had been overlooked.

4. To deal with this particular problem the doctor's position must be made as strong as possible.

The important point I wish to raise is that the Insurance Act cannot remedy what is really a social evil due to imperfect social economics. Something may perhaps be done to prevent its adding its own quota to the human misery caused by neurotic illness.

My third point is to suggest that a consultant service may be practical politics at very little expense. As a consultant myself I cannot criticize the absence of a consultant service. Too much consultation may be an evil. Pushed to extremes it may so subdivide responsibility that no one bears any at all, and this is not good for either patients or doctors. Some of the weaklings in the army were artists in the subdivision of responsibility. The fact seems to me to be that both doctors and patients vary very much in their attitude to consultations. Some doctors feel strengthened and helped by a consultation, others feel weakened, and it is important to bear in mind that if a doctor is to help his patient on the all-important psychological side he must not be harassed by having his authority undermined by unwanted consultations. To all of us it is also essential that the consultant chosen must have the confidence of both doctor and patient. They must be free to choose their own consultant. That is as important as the free choice of doctor and the easy transfer of patients. The question is whether this can be done. I think it can

be done if the authorities would trust the panel practitioner with a little credit as they trust him with the lives of his patients. I have already noted in the two previous criticisms that there is reason to believe that the drug question is on a very unsatisfactory basis. The drug bill is rising enormously. The charges of excessive prescribing are usually impossible to prove to the satisfaction of a Panel Committee consisting of men who have not seen the patient, and therefore are not in a position to give a confident opinion. From the point of view of professional men I imagine that these charges are the most irritating and distasteful part of the administration. They ought to be abolished, and I think that with their abolition one could try an experimental consultant service which would create no vested interests. The first thing is to ensure that every patient gets necessary drugs which are absolutely required. An expert committee could prepare a short schedule of the drugs which are absolutely essential to the practice of medicine but which are not at the same time cheap. They are very few. I would let each man prescribe what he thought necessary of these drugs, which are all powerful poisons and not likely to be abused. The schedule prepared, there are already data in the hands of the pricing bureaux which should render it possible to estimate their cost. We should then have an essential drug fund, and would thereby ensure that no one person suffered from lack of drugs. With the residue of the present Drug Fund, and any other funds which can be raised, I would constitute a Medical Treatment Fund and divide it on a capitation basis. Let the doctor who wants consultations be able to pay for them out of this fund if he can economize in drugs of an optional nature. If he requires appliances which are not scheduled let him get them; if he requires laboratory help let him pay for it out of this fund by means of vouchers. The Panel Committee can bargain for a scale of fees. In fact, let him help his patients in the best way he can out of this fund without question from the authorities, but let him be encouraged to use his brain on behalf of his patients. He will soon learn all practicable economies for the benefit of his patients, and the public will soon find out which doctor serves them best. The chief difficulty I see is in the case of the young man starting with a minimal panel whose drug bills are proportionally heavy. His capitation grant would have to be proportionally larger, but the data upon which this can be calculated are in possession of the pricing bureaux.

I claim, therefore, that the Act has justified its existence by converting the "clubber" into the privileged "State patient"; by improving the status and conditions of work of the doctors, it has vastly improved the quality of their work, and under wise guidance can do so still.

The chief points for criticism arise from the undue prominence given to drugs (not the drug habit), the increase of neurotic illness, and the lack of a consultant service. Some suggestions have been made whereby these defects may be ameliorated, and attention is drawn to the vital importance of doing nothing to undermine the status and diminish the personal responsibility of the doctor.

THE MEDICAL PROFESSION: (*b*) GENERAL PRACTITIONERS.

BY

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Wakefield.

IN attempting to answer from the general practitioner's point of view the question which we are discussing to-day, it appears to me to be necessary to put another question: "How *can* a national health insurance scheme justify its existence from a general practitioner's point of view?" In order to justify its existence it would seem to be necessary that it should attain at least the following objects:

(*a*) It must enable a good, sound, wide, and complete service to be given.

(*b*) It must permit of such service being rendered without stint either of quantity or quality.

(*c*) It must allow of, and tend to strengthen, the good feeling between the doctor and the patient which has been existent for generations past.

(*d*) It must be sufficiently remunerative to enable the doctor to devote the requisite time and care required by his individual cases.

(*e*) It must not unduly interfere with the liberty of action of the doctor by means of regulations controlling service under it which are irksome in character and which tend to create difficulties in the already difficult path of general practice, nor must it interfere with or limit the reasonable independence of the patient.

(*f*) It must enable practice under its regulations to be conducted in accordance with the time-honoured ethical requirements of the profession.

(*g*) Lastly—and perhaps most important of all—it must be so framed and administered as to educate public opinion in the knowledge that the duty of the private doctor does not end in diagnosis and treatment, but that he is the first line of defence in the whole national system of preventive medicine, and a skilled and useful adviser in matters of personal and domestic hygiene, who may, and should, be consulted early rather than late.

Taking these as some of the main requirements of a national health insurance scheme, let us consider how far the National Health Insurance Act has conformed to them. In the first place, I imagine we all agree that the Act has provided an infinitely better service than existed before its advent. When one looks back to the old days before 1912, and recalls the manifold drawbacks and imperfections of the now discredited "club" system, one is bound to rejoice at the improvement effected. No more has a young doctor starting in practice to consider how he may best obtain an appointment as medical officer to the village club, and go cap in hand to prominent members of such societies for patronage. No longer can such a doctor be subjected to the humiliation of being summoned before his employers in some small inn to give an account of any action of his which did not commend itself to the club committee of management; and fortunately the day is now gone by when one disgruntled member of a society can so influence a few of his friends against a doctor that he loses the whole of his appointment on short notice. The Act has not, of course, abolished contract practice. But the contract—though it contains many undesirable and irritating provisions—is made between the practitioner and a public body of some standing, and safeguards are inserted in the regulations which form a very comforting protection against injustice and prejudice. Taken on the whole, it appears to me that, so far as it goes, the Act has enabled a good, sound, and wide service to be given, but it is not by any means, as yet, as complete as could be desired. It is in no sense perfect, and the last word in national health insurance has not yet been spoken. But, as a beginning, I think we general practitioners must recognize that it has laid a foundation for the ultimate creation of a good, sound, wide, and complete medical service for the class of people for whom it was intended.

So far as the Act has met the requirement of there being no stint in the quantity or quality of the service rendered, my own view is that certain alterations are urgently called for. I believe that generally the service rendered has been good, both in respect to its amount and its efficiency, but I do feel that many improvements could and should be made. For example, in regard to certain things which a doctor may not prescribe for his patient; it seems to me absurd and unfair that an insured person with a controllable hernia may not be supplied with a very necessary truss; or that a doctor may prescribe a paint for the throat, but must not—on any account—order a throat brush with which to apply his remedy.

One great advantage of the Act from the practitioner's point of view appears to me that it is undoubtedly encouraging the old friendly and confidential feeling between the doctor and his patient. Now that absolutely free choice—with the opportunity of change at any time—has been granted, there can be no reason why a reluctant patient should consult his doctor on any single occasion. This is, I feel, a great and mutual advantage.

As I understand that the limits of this discussion do not allow reference to the financial aspects of the service, I am debarred from considering the question of whether the remuneration is such as to enable the doctor to devote the time and care required for the well-being of his patients. All I would venture to say is that, whether satisfied or

dissatisfied with his guerdon, I am convinced that in the enormous majority of cases the practitioner has given of his best in the service of his insured patients.

It is often said that the Act has seriously interfered with the "liberty" of the doctor. I am much inclined to controvert this statement. There must, of course, where public money is being spent, be some regulations governing its use. I admit that many regulations have been made which are tiresome, irritating, irksome, and unnecessary. But before it is possible to lose a thing, such a thing must have already existed, and from my recollection of conditions before the advent of the Act, I am inclined to the view (certainly in industrial areas) that the post-Act liberty is infinitely preferable to the pre-Act servitude.

Coming now to the question of the effects of the Act on ethical procedure, I think there is really very little to complain of. One thing, at all events, which the Act appears to me to have successfully accomplished is that it has created an infinitely better and more friendly attitude between medical men than existed years ago. Competition no doubt is keen—as it always has been—and conpetition in itself is not a bad thing. But I think most practitioners will agree with me when I say that a much more cordial and brotherly feeling has existed amongst us, and a better atmosphere, than has been the case for a long time past.

Lastly, as to the effects of the Act in the direction of preventive medicine, I believe that it has led doctors to take a wider view of their duties towards the environments and habits of their patients than heretofore, and that the public is surely arriving at a truer valuation of the services of its individual medical advisers. The old pathetic belief in the "bottle of medicine" is slowly passing away, more faith is arising in modern methods of examination, diagnosis, and treatment, and greater appreciation is day by day being shown of what is truly described as the "progressive" practice of medicine.

So far I have dwelt chiefly upon the advantages resulting from the Act. There are, however, many changes which most of us would desire to see. Personally I would rejoice in the production of a comprehensive scheme involving the consolidation of all forms of insurance—life, sickness, accident, old age, widows' pensions, unemployment, and so on. There appear to be indications that some contributory scheme of this nature may be brought forward in the near future. Pauperization of our people none of us wish to see; but so far as thrift is concerned, and some redress for the unavoidable misfortunes of life, the State clearly has a duty.

When the time comes for some such scheme to be developed I am satisfied that not only the general practitioners, but all the members of our profession, will give a good account of themselves. They will show, once more, that it is a calling devoted to the service of the people, and one which can, by its work and by its example, give a lead to all who have at heart the true and abiding interests of the inhabitants of this country.

THE INSURANCE ACT AND THE HOSPITALS.

BY

H. S. Souttar, C.B.E., F.R.C.S.,

Surgeon, and Director of the Surgical Unit, London Hospital.

When the Insurance Acts came into force in January, 1913, serious misgivings were felt in the hospitals of London as to the effect they might have upon their income and upon the numbers of their patients. As regards the former it was argued that with the provision of a national medical service the sources of charity would be dried up, and as regards the latter fears were freely expressed that in such an area as London it would be only too easy for the insurance practitioner to relieve himself of his more serious responsibilities at the expense of the hospitals, whilst retaining the payment he received for services which he never rendered. Neither of these fears has in fact been justified by experience, even at the London Hospital, where perhaps they had more foundation than at any other hospital in the country. In regard to the London I am able—thanks to the kindness of the House Governor, Mr. Morris—to place before you definite statistics which are important both as proofs of the statement I have made and as suggestive of what we may expect from an extension of national health insurance.

The Effect on Patients.

As regards patients, the number of in-patients was in no way affected, but the out-patients dropped at once by 31 per cent. During the war the numbers dropped still further, until in 1918 the number of out-patients was only 43 per cent. of that in 1913. Since then it has risen slightly, but even now it is less than half what it was before the Insurance Acts came into force. An even more remarkable result appears on studying the average attendance of each out-patient, for the curve shows an absolutely steady rise, unaffected by either the Insurance Acts or the war. The average number of attendances has risen from 2.5 in 1908 to 4.4 in 1922. To give actual figures for these two years: in 1908 at the London Hospital 242,000 out-patients made 607,000 attendances, whilst in 1922 107,000 out-patients made 466,000 attendances.

These figures are large enough to justify two very definite conclusions. In the first place, it is evident that the hospital is not being swamped by numbers of patients who ought to be treated by their panel doctor. In the second place, the severity of the cases coming to the hospital and the extent of the treatment they receive are both increasing. It is evident that the cases have already been to some extent selected and that the hospital is being used to a greater and greater degree in a consultative capacity.

The Effect on Income.

As regards hospital funds, there has been a steady rise in contributions from all sources, and this has certainly not

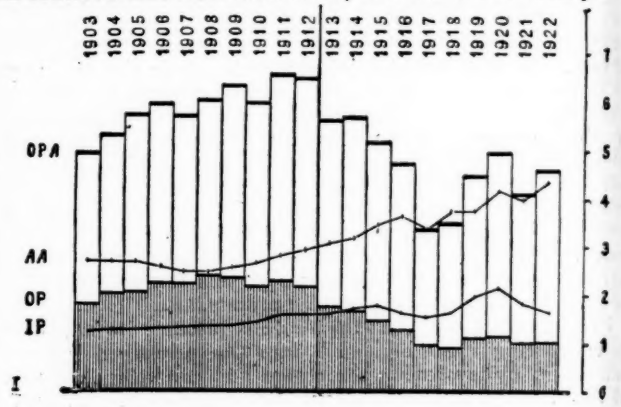

Fig. 1.—Patients attending the London Hospital for ten years before and after National Health Insurance Acts. IP, in-patients, each unit representing 10,000; OP, out-patients, each unit representing 100,000; OPA, out-patient attendances, each unit representing 100,000; AA, average attendances of out-patients, each unit representing one attendance.

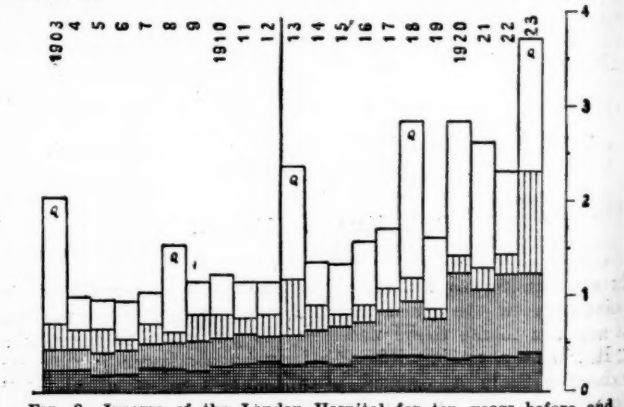

Fig. 2.—Income of the London Hospital for ten years before and eleven years after National Health Insurance Acts. In each column there is represented from below upwards—1, income from trust funds, investments, and estate; 2, payments by and for patients by nursing institutions, and from the Sunday, Saturday, and King Edward Funds; 3, legacies; 4, voluntary contributions, apart from capital; Q, quinquennial appeal. Each unit represents £100,000.

been checked by the Insurance Acts. As it happened, 1913 was the year of our quinquennial appeal at the London, and it then resulted in the handsome total of £237,763—a record

at the time, which, however, we quite eclipsed last year. It is, of course, true that we are no richer, since costs have kept pace with contributions, but I think it is a matter for congratulation to Lord Knutsford that contributions have kept pace with our costs. And the increase is not from one source only. The chart shows that contributions from patients, from the working classes, by legacies, and from the charitable public have all shared in achieving this end. It almost seems as if charity were stimulated and not checked by the efforts of the working classes to pay what they can for the services of the hospitals. Certainly there has never been a time when the benefits of the hospitals were more widely appreciated or when a higher value was set on the services they render to the State.

Future Developments.

It seems highly probable that in the near future attempts will be made to enlarge the scope of the Insurance Acts in two directions: first, to extend their operation by the inclusion of dependants, and, secondly, to include hospital treatment in the benefits they provide.

As regards the first, everything goes to show that such an extension would improve the standard of the work of the hospitals by relieving them of minor cases and by still further increasing the consultative character of their services. To the patient there would be the immense advantage of treatment in his own locality, where continuous supervision would be far easier, and where he might expect a degree of individual attention and interest scarcely possible in an out-patient department.

The inclusion of hospital treatment in medical benefit I regard as the only logical sequel to the Insurance Acts and as a really progressive step. It will bring the consultant and the general practitioner into a closeness of co-operation which will be of incalculable benefit both to the patient and to our profession. The interchange of information and opinion will become a matter of routine and will be carried out with an efficiency at present impossible. The early reference and admission of serious cases will be assured, whilst it will be possible to discharge many cases at an earlier date with the knowledge that they will receive adequate medical attention at home. On both grounds a considerable increase in efficiency and a reduction in the cost of treatment may be expected, whilst the advantage to the patient is obvious.

Along these lines I think that it will be possible to develop a great health service, linking up the patient's home with all the material and scientific resources of our great hospitals. Such a service will be no Utopian dream, but a natural development from the best of what we have—a true synthesis of what are at present somewhat inco-ordinate atomic groups. It will be a medical service to which we may all be proud to belong, for it will bind our profession together in one united body, strong in the fight against disease and in the service of our country.

VOLUNTARY HOSPITALS: ADMINISTRATION.

BY

MR. J. J. BARRON,

Secretary-Superintendent, Bradford Royal Infirmary.

WHEN the National Health Insurance Act was under discussion in the House of Commons in 1912 the chairmen of twelve London hospitals had an interview with Mr. Lloyd George, then Chancellor of the Exchequer, regarding the effects of the Act in relation to voluntary hospitals. The Chancellor explained that the main work of the hospitals was not touched by the Act, inasmuch as the treatment afforded to insured persons under the Act was such treatment as could properly be given by a general practitioner of ordinary competence and skill, whereas this was just the kind of treatment that a hospital did not exist to give. Thus insured persons needed as much as ever the aid of hospitals in order to obtain the treatment that was given in the in-patient departments, and to a substantial extent that given in the out-patient departments (for example, all that for which special medical or surgical skill was required). Thus hospitals would only be carrying out their proper duty in continuing to give this treatment. Those subscriptions, donations, and legacies on which the hospitals had depended would be needed as much as hitherto, and they would have the same claim on the support of the benevolent. The Chancellor said that the question of hospitals had been by no means overlooked in planning the Government insurance scheme, but that it had been deemed wiser to endeavour to avoid any steps that would imperil the voluntary nature of the great hospitals of this country. This could not have been avoided if hospital work had been brought into the scheme of the Act, since a subsidy from public funds would necessarily be followed by some degree of public control. He understood that the hospital authorities were greatly desirous of continuing the voluntary system unimpaired; and if the position of things under the Act regarding hospitals was properly understood it would be seen that no fears need be entertained on this score from the Act.

The facilities afforded to panel patients by the Act have made possible the earlier diagnosis of disease, with the result that those patients are given a chance of earlier hospital treatment than would otherwise have been the case.

In discussing the effect of the Act upon the administration of voluntary hospitals, the matter must be looked at from two points of view—first, from that of the patients, who are to-day, as they always have been, the first consideration; and, secondly, from the point of view of finance.

The first effect of the Act was a reduction in the number of out-patients requiring advice or treatment. In 1911 the number of out-patients (excluding casualty patients) dealt with at the Royal Infirmary, Bradford, was 7,238, and this side of the work has decreased until last year (1923) the number was 3,348. But the in-patient figures show a considerable increase. In 1911 the number was 2,756; last year it had reached 3,291.

As shown above, there has been a considerable increase in the number of in-patients, involving a corresponding additional expenditure, quite apart from the great advance in the cost of all commodities in use, which is not compensated by the saving on the smaller number of out-patients receiving treatment. As you doubtless are aware, the main items of hospital expenditure are incurred in the in-patient department.

Some figures as to the number of insured persons treated during the last two years may be of interest. In 1922 45.27 per cent. of in-patients were insured persons, but on making inquiries only 14 per cent. of the total were found to be entitled to additional benefit, and in respect of these a sum of £2,245 was received from approved societies—an average of rather less than £4 5s. for each patient entitled to additional benefit, or £1 12s. 4d. of all insured persons. The average cost per patient was £9 5s. 4d.

In 1923 the percentage of insured persons treated as in-patients was 44.24, of whom again 14 per cent. were entitled to additional benefit. The sum received was £2,319—rather less than £5 9s. for each of those patients in benefit, or £1 14s. 6d. for each insured person, while the average cost of each in-patient was £8 17s.

I think you will agree that the figures given above show that the performance of this work for the national health insurance organization entails a heavy burden on the finances of the voluntary hospitals, and that the boards of these institutions have a right to expect that the approved societies will recognize this fact in a more substantial manner than they have done.

It cannot be denied that the work of the voluntary hospitals is of great value to the approved societies and their members, as the effect of hospital treatment is not only to relieve those patients from suffering, but also to reduce the periods during which they are a charge upon the insurance funds.

The Government should not throw its clients on "charity." If the usefulness of hospitals is to continue they must receive support, and may fairly ask from the approved societies and the Health Committees the cost to which they are put in dealing with insured patients.

PREVENTIVE MEDICINE.

BY

J. J. Buchan, M.D., D.P.H.,
M.O.H. Bradford.

Preventive medicine is not to be regarded as the sole practice and province of practitioners of medicine, and still less of the practitioners of any special branch. It is, more than any other, a department of medicine in which success can only be attained by the united effort of the public and the whole medical profession, and a system by which no fewer than sixteen millions of the population of this country are required to play even a small part in the promotion of their own health conditions is one worthy of the most serious consideration and support by all interested in the physical welfare of the nation. Preventive medicine is too young a science to have adopted any inviolate precedents. It has no preconceived notions, and in its work it is essentially an opportunist; it is prepared to welcome and rally to its aid every means of assistance to influence for good the health of the people. Many aspects of public and private work, therefore, fall into the category of true preventive medicine, though not recognized as such, and it says something for the vision of those responsible for framing the original Insurance Act that they avowedly aimed from the start at doing something to promote public health, and admitted it in the appellation which they give to their measure. Like all reforms dependent on legislation, the realization is found to fall far short of the hopes of the promoters, but this should not prevent us from appreciating the real good that the National Health Insurance Acts have done in furthering the cause at heart. In order to appreciate truly the effect of these Acts on the health of the people it is not inappropriate to consider in which directions preventive medicine operates in its endeavour to promote better health, and to inquire in each case how far the Insurance Acts have assisted the work attempted to be done. The operations of preventive medicine and its allies may roughly be classified under four heads as follows:

1. Efforts made to improve the environmental and general living conditions of the individual.
2. Efforts made to educate the people in the preservation of their personal health and that of their families.
3. Efforts made directly against certain diseases, or groups of diseases.
4. Efforts made to prevent and ameliorate disease generally, and to mitigate the after-effects.

In each of these directions the National Health Insurance Acts have done most useful work, and from these aspects alone have, in my opinion, fully justified their existence.

In the first category, the original Act contained some provision for bringing home to sanitary and other authorities any failure on their part to secure such betterment of health or living conditions for which they were responsible. These powers have been practically unused, but their very existence has afforded, in some districts, powerful moral support in bringing about needed reforms. Apart from this, however, the actual payments under sick and disablement benefit, and especially under maternity benefit, have had a directly beneficial effect upon improving the environment and living conditions of those who unfortunately came within their scope. The tax on the financial resources of the insured caused by sickness has been to some extent removed, and sickness has to a less degree become a disabling economic handicap for years upon the insured person and his family. It has in this sense very truly led to a continuous improvement of his environment. In maternity benefit the gain is greater still, for in a large number of cases it has materially aided, not only the general environment, but also the actual living conditions of the mother and the newly born infant. All this seems very indirect, but preventive medicine in these days has got to know that an indirect action, or a less direct action, towards the general improvement is often rewarded in good results to a greater degree than is a much vaunted and more direct campaign. Further, the change in the attitude of the insurance practitioner towards his insured patients set up by the Insurance Act is altogether for the good of the public health. The insurance practitioner is no longer a medical practitioner called out to attend illness; it is his personal interest to see that his patient is well, or to find out why he has become, or continues to be ill. This, it may be said, has always been the attitude of the medical profession, but a prolonged experience of the work of a medical officer of health justifies me in saying that the complaints which I have received from medical practitioners with respect to environment of patients since the passing of the 1911 Act greatly outnumber in proportion those that were being received prior to that date. It may, I think, be definitely stated that environmental conditions are now regarded as a part of their work in the view of many insurance practitioners, and this is surely as it should be.

In the second category, the educational effect of the Insurance Act on health conditions can be said to be enormous. Sixteen millions of people have been encouraged to regard illness in all its stages as worthy of consideration, care, and treatment, not merely delaying until an incapacitating condition for work has resulted, but seeking medical treatment at the onset of illness when it is most likely to be effective. It has to be admitted at once that it is not a good thing to make a man introspective with respect to his health or give any encouragement to malinger in disease. In the bulk I believe the Insurance Act has not done this, for protection provided against it is, on the whole, adequate. In ordinary private practice the introspective adult too often becomes a source of income to one or many doctors, but in insurance practice he is a nuisance and a drag upon the work of all, while both in private and insurance practice the malingerer would not be tolerated by any. The better mutual understanding now existing between Insurance Committees, approved societies, and panel practitioners has given the practitioner greater confidence in dealing with such cases.

Education in health matters is specially provided for in the Act of 1911, and most Insurance Committees have done something in this direction, but the effect of the giving of lectures, or the publication of information, on questions relating to health, even though this had been carried out to its utmost extent, would not have been any greater than the large and general educational effect on health which the mere institution of sickness benefit and of maternity benefit has brought about.

In the third category of the activities of preventive medicine, where direct action is taken against certain diseases, the notable achievement of the National Health Insurance Acts has relation to tuberculosis. In the administration of sanatorium benefit the point of view of public health has from the first been taken, and this has made possible the antituberculosis campaign in this country. Without the National Health Insurance Acts it is probable that this campaign would have been delayed indefinitely, for while the original Act did not itself do a great deal in the matter it was a powerful stimulus to the public mind, and caused work to be undertaken at once that would otherwise have lain dormant. In the last few years we have heard a great deal about wrong turnings in tuberculosis and elsewhere, but I do not think the country has anything to regret in attempting to make provision for the sanatorium treatment of the tuberculous. It is easy to make no wrong turnings if we stand still, and those local authorities who have been most active in tuberculosis have not confined their efforts to the provision of sanatorium treatment, but have been most active in all the other—the general and special means of prevention in this disease. Since the passing of the 1911 Act tuberculosis has been falling in incidence in this country at an even greater rate than before. This occurred in the war and post-war years, when conditions apparently favouring an increase abounded; further, in the natural history of the prevention of any disease, the time comes when progressive improvement becomes ever more difficult to attain, and after so great an improvement as had occurred in tubercle it was warrantable to believe that this time had arisen.

In the fourth, and last, category of operations of preventive medicine the Insurance Act has taken a most important place. Medical benefit as a whole is one of the chief efforts the country has taken to ameliorate disease among those suffering, and to mitigate the after-effects. It is unnecessary to elaborate this. Such good as is done in this direction is not easy to demonstrate by statistics of lives saved, or capacity for work conserved, but yet it forms an enormous mass and reflects continuously on the public health statistics. We need not at this moment be unduly concerned about the number of weeks lost to industry through sickness or other cause, for we have no reliable data for comparison, and times are changing, and, with them, circumstances. We can contemplate with full confidence that after a period of years the time lost to industry from sickness will have very materially fallen through the working of the Insurance Acts. At the moment, when the Acts have been in operation only a little over ten years, and have during that time been encouraging a greater care of the sick, there would be naturally enough an apparent tendency towards increased sickness shown; but over a longer period we shall find this showing a marked decrease, and with this decrease will also come a greater efficiency of each unit in industry, which will ultimately result in greatly increased output.

For all these reasons, from the point of view of preventive medicine, I cannot come to any other conclusion than that the National Health Insurance Acts have justified their existence, and even had they conferred no further benefit on the population this ground alone would fully warrant their retention.

DISCUSSION.

Dr. HAROLD BEADLES (chairman of the West Ham Insurance Committee), looking at the question from the side of administration, considered that the Act had justified its existence by showing that national insurance was necessary for the health of the community. Health insurance, he said, must be primarily for the community and not for the individual, and must include the dependants of the insured, and those who at present came under the Poor Law. If they were to have a healthy nation they could not leave the latter out, even though unemployable. Medical attendance for the whole community must be placed under the control of one body, and not of independent approved societies or Insurance Committees. Dr. Beadles advocated an *ad hoc* committee of the county or borough councils. The name "national" would be a farce so long as deposit contributors remained, and a number of societies, giving different benefits to their members, existed. There should be no difference in amount of pay such as was at present the case in sickness, old age, unemployment, and compensation for accidents. The scheme for all forms of disability should be financed on a contributory basis.

Dr. J. F. WALKER (Southend-on-Sea) advocated the promotion of goodwill between the administrators of the Act and the medical profession. The question, "Are you a panel doctor?" should be answered with pride in the affirmative. But this could only be achieved by leaving more matters in the administration of medical benefit to the doctor. The Medical Service Subcommittee was not altogether satisfactory. Amongst the insured, dissatisfaction with the Act was more frequently due to delay in obtaining sick pay than to any complaint against the doctor. Dr. Walker considered that the "bottle of medicine" habit had its use, because with it the patient was more likely to follow advice. Without it he was liable to be disgruntled. Dr. Walker deprecated the piling up of regulations, as no amount of regulations would make a good doctor.

Dr. HERBERT JONES (M.O.H. for Herefordshire) welcomed the cordial co-operation now taking place between the British Medical Association and the Society of Medical Officers of Health, since in his official capacity he looked for help from the whole profession. The general practitioner on the panel should call more frequently upon the medical officer of health for assistance. Dr. Herbert Jones added that he liked to be associated with the panel work; this association was a help to him and of service in the administration of the Insurance Act.

Dr. G. W. SKENE (chairman, Public Health Committee, Willesden Urban District Council) said that although he was outside the working of the Insurance Act he looked forward to the possibility of its being used as a great public health measure. Everyone so far during the session of the Section had spoken well of the Act, but in one respect it had not been a complete success: it had not obtained the active support of the whole medical profession. The reasons for the abstention from service under the Act were not financial. What was wanted was some modification, perhaps slight, in administration. If modifications in administration could be effected, making service under the Act acceptable to the whole profession, it would be for the good of the country.

Mr. WILLIAM GILL, J.P. (Manchester Unity of Oddfellows), referred to the introduction of the working of the Act in Bradford and the prolonged discussions with the doctors. He was glad that a whole-time service was not introduced. The present service in Bradford was second to none in the kingdom, and there had never been a complaint from his society, the largest friendly society, before the Medical Service Subcommittee. He had spoken to a delegate meeting of his society every three months, and had challenged the meeting to produce a complaint of the medical service. He resented disparagement of the old club practice, because it should be remembered that club practice was the foundation of the Insurance Act. Sanitary improvement in Bradford had been due to the Act, with its sickness and other benefits. The approved societies had had many irritating things to contend with, no less than the doctors had. The claim that the Medical Service Subcommittee should consist of doctors only was a travesty of British justice. Doctors might require to be protected from their fellows, and justice to be tempered with mercy. Mr. Gill disagreed with taking the tuberculosis benefit out of the hands of the Insurance Committees. Its administration had become too much centralized; the Insurance Committees were deprived of their most interesting work; and the human element had to some extent been eliminated. County councils were already overloaded with work.

Dr. PETER MACDONALD (chairman, York Insurance Committee) said that for a comparison of pre-insurance with post-insurance contract work everyone should read *The Old Doctor*, by Dr. Layton of Walsall. There had been a great change of view among doctors since 1913; in 1912, if a referendum of medical practitioners had been taken, it would have consigned the author of the Act to perdition. Dr. Macdonald deprecated the bad things Miss Godfrey had said about doctors, for which there was very slight justification. There was no question of "pull devil, pull baker" in the Medical Service Subcommittees, whose constitution made for fair play for everyone. From his experience as a consultant who came in contact with many insured persons, he could assert that the work of the panel doctor was nearly always well done, sometimes extremely well done. The notes of cases submitted to him were of great value; and this view was backed by the opinion of pensions medical officers. The contract under the Act had given a great incentive to preventive work. The general practitioner had always done preventive work; but it was now to the advantage of the panel doctor that patients should remain well. With the abolition of fees the doctor saw the patient earlier, and in such diseases as acute Bright's disease could stop its progress. This reacted on the amount of money required for sickness benefit, and was one of the reasons why actuarial expectations were falsified. Bringing in under the Act the remaining two-thirds of the population would probably have even greater proportionate effects. From the point of view of promoting prevention the Act justified itself.

Dr. G. H. SEDGWICK (Rotherham) thought the title for the discussion was too wide. The promises of the Act were not altogether fulfilled. The administration was good, and would become more useful. But the Act stopped short in treatment; and it was necessary to press for a widening of its scope to include consultants, hospital treatment, and laboratory facilities. It was a drawback that all general practitioners were not on the panel. In most parts of the

country they were; but in centres of idle luxury the non-panel man was looked upon as professionally superior. All general practitioners should make it a point of professional honour to be on the panel. With regard to the "bottle of medicine," it might be useless, but neurotics were often cured by faith.

Dr. H. SCURFIELD (Folkestone) said that when in former times he acted as Admiralty surgeon and agent and also as medical officer to the Post Office, he found that he was more pleased with the piecework terms of the former than with the contract payment of the latter. Probably the doctor had not always realized the amount of remuneration derived from fees in bulk. The old capitation fee in clubs was too small, and insurance practice was regarded at first as merely glorified club practice. Now there would be difficulty in getting doctors to go off the panel. At the same time the speaker was inclined to favour the method of the Scottish Provident Clerks' Association in insuring against doctors' bills, a method in which 6s. a head was found to be the limit of liability. The panel service needed to be increased by the addition of consultants and hospital treatment, which were even more necessary for dependants and children.

Dr. J. W. BONE (Luton) thought that the question should be looked at from three points of view: (*a*) those who gave service, (*b*) the administration, (*c*) those who received service. Those who gave service were satisfied on the whole, especially in industrial areas. But it was worth while to inquire why such areas as London, Edinburgh, and Bournemouth were without sufficient panel doctors. In his view the reason was that in these areas private practice was highly paid, so that Insurance Act practice was not attractive. The best service also was given where disciplinary measures were put in the background. In London there was too much of the iron hand, and too little of the velvet glove of Bradford. Before the Act the speaker looked forward to getting rid of club practice. He remained on the panel now because he liked it. It emphasized a friendly feeling in the profession, and gave opportunities for team work. Those who administered the Act were satisfied, except perhaps that they would like a little more money. But amongst the insured persons there were serious differences of opinion, and on the whole those who received service were not satisfied. One reason probably had been the absence of complete free choice of doctor. This had now been remedied except in one particular—namely, for patients attached to institutions run by friendly ocieties. Then, again, there was difficulty with chemists; panel patients were kept waiting a long time for their medicines, and very often the chemists' shops were closed when the doctor was still attending patients in his surgery. Thirdly, there was delay in getting sick pay, especially for those whose approved society office was far away from the patient's residence.

Dr. C. BUTTAR (London) thought the title of the discussion vague and academic, and that its unsatisfactory nature was reflected in the opening addresses, which consisted mainly of a mixture of apology and satisfaction, with little in the way of suggestion for improvement. Was not better medical attendance possible? In his opinion improvement might be effected by getting rid, as far as possible, of lay control. The people of this country were the slaves of shibboleths, such as that "public money required public control." He suggested to Insurance Committees and approved societies that the aim should be the best medical service; and that public control did not mean control by the public, but control by a gentleman who sat in an office. Dr. Buttar advocated cutting off medical benefit entirely from other benefits under the Act, making the medical service for the country a department of the Ministry of Health, managed by doctors; exercising control locally through local committees of doctors—statutory committees if necessary; using, as far as possible, in disciplinary matters the bodies found sufficient for the interests of the non-insured population.

Mr. C. J. BOND (Leicester), vice-chairman of Consultative Council for Medical and Allied Services, Ministry of Health, said that the Act was a step in the evolution of the attitude of the nation to disease. This did not mean that it was perfect. The relation of the Act to hospital service was not satisfactory. The position of hospitals was not satisfactory; and the experience of the London Hospital, described by Mr. Souttar, should not be taken as applicable to all the hospitals in the country. In some the number of out-patients had increased beyond that of pre-Act days, and far too many patients were waiting for admission. Mr. Bond thought that contributions to hospitals should be spread over the population on an insurance basis, and he found that more and more workmen were willing to contribute to hospitals. The statesmanlike attitude towards the Act was that it was an important, but not the final, step in the process of improving the health of the community.

Dr. E. W. G. MASTERMAN (Medical Superintendent of Camberwell Infirmary) noted that more patients were treated in infirmaries than in hospitals. The infirmaries were in close contact with panel doctors, and he had observed that panel doctors showed the greatest care in their attendance on insured persons. Infirmaries were improving in the facilities they offered; many had pathological departments, and in some cases consultant staffs were attached. Infirmaries should be linked up with the Insurance Act system. Patients were never refused admission to infirmaries, which were in the position to relieve the waiting lists of hospitals.

Dr. H. B. BRACKENBURY (London), in closing the discussion, said that some valuable information on facts had been given, some valuable opinions, and some odd suggestions. The first fact of interest was the reduction in the number of patients attending out-patient departments. This was confirmed by evidence from London and Bradford, and should dispose effectually of the accusation that insurance practitioners relieved themselves of patients for whom they were responsible by sending them to hospitals. Secondly, medical officers of health had noted that insurance practitoners were drawing attention to the conditions under which their patients lived, and so were taking part in preventive work. Of the three methods of dealing with illness—private practice, State service, and insurance—the third was new, and was applied by all three parties in the State to various social ills. It had the merit of encouraging thrift. He agreed with Dr. Buttar that medical benefit should be a health service, dissociated from cash benefits; and that such a service might bring in non-panel men. He had been trying to find out what it was that prevented some men from becoming insurance practitioners. Dr. Skene had suggested some modification of administration, but he had not said in what direction. Dr. Brackenbury said he would not go as far as Dr. Buttar; but so far as purely professional work was concerned a purely professional body would be more in accordance with that profound and ingrained professional spirit, which might well be infused into other professions and trades. The supreme honour of the profession would resent any increased control by laymen. An alteration of discipline so as to leave it more and more to the general sense of the profession would safeguard and help forward the interests of the nation. Extension of the Act was necessary, since if workers needed protection their dependants needed it even more. There was no need to fear that the profession would become commercialized. However much was paid there would remain opportunity for extra insight and humanity in the treatment of disease. The element of charity would never be eliminated by State payment. Therein medicine differed from trade. A pound of tea could not be thrown in by any profession. It was necessary to take the treatment of tuberculosis out of the hands of Insurance Committees, because in that particular disease the whole community was brought into the campaign. Similarly with public health questions, they could not be dealt with for one section of the community, but must be under the public health authority. Doubtless in the future

Insurance Committees would have to merge themselves in other bodies; but the personnel of those committees would be required in the new work. A representative of insured persons had proposed a quinquennial audit of every individual's health. It was difficult for laymen to understand that medicine was not an exact science. Englishmen in the mass would never submit to this quinquennial valuation, even if it were desirable that individuals should voluntarily submit themselves to it; and health values could not be set down in the same way as auditing accounts. Dr. Brackenbury agreed that energy had been wasted on details of regulations, and that it was necessary to take a wider view of medical duties and to direct all possible efforts towards the preventive side of the work. The medical men should do as much work, but it should be spread over a smaller number of patients.

Dr. Brackenbury concluded by proposing a vote of thanks to the Chairman and Secretaries for their work in connexion with the Section.

SECTION OF PATHOLOGY AND BACTERIOLOGY.

Professor C. H. BROWNING, M.D., President.

DISCUSSION ON TISSUE CULTURE: ITS BEARING ON PATHOLOGICAL INVESTIGATION.

THE address with which Dr. ALEXIS CARREL of the Rockefeller Institute, New York, opened this discussion was printed with illustrations in our issue of last week (p. 140). The following is a note of the brief discussion which ensued.

Dr. R. SAN RICART (Barcelona) said that all tissue cells were susceptible of cultivation, but the cellular life was more precarious in proportion as the specific function was higher. Connective tissue was by far the easiest to cultivate, and the growth could be either increased or diminished according to the medium. The liquefaction of plasma with fatty degeneration was the usual manner in which cellular life ended. Some had attempted to explain the healing and cicatrization of wounds on the principles of tissue culture. Knowledge gained from tissue culture should provide reliable information to guide the surgeon in surgical transplantations.

The President of the Section, Professor C. H. BROWNING, asked whether it was true that a large mononuclear cell could degenerate into a fibroblast; and also how Dr. Carrel explained the curious disappearance of polymorphs in cultures from blood. He remarked that weighing the tissue culture, if practicable, would seem the most accurate way of estimating growth.

Dr. DIBLE asked whether Dr. Carrel could give any information as to the nature of the growth-stimulating substances.

Dr. HINE (London) confessed that he had had great difficulty with Tyrode's solution, and asked for further details about the flasks used for tissue cultures. He had had fairly good results with oxalate plasma as a medium, and asked if Dr. Carrel considered this to have any objectionable qualities.

Professor M. J. STEWART (Leeds) asked how fibroblasts and large mononuclear cells compared as regards phagocytosis. He asked also what powers of growth neuroglia cells possessed in culture, and whether mixed cultures of fibroblasts and squamous epithelial cells reacted on each other at all.

Dr. MACARTNEY (Edinburgh) dwelt on the delicate and laborious nature of the technique which he had studied with a view to helping him in work on cultivation of filtrable viruses. His experience convinced him that the youth of the serum used for culture media was of utmost importance.

Dr. CRUICKSHANK remarked that by the first method of culture no growth appeared to be possible unless the fragment of tissue was fixed to the slide, so that there appeared to be some factor of importance in the fixation. He asked Dr. Carrel whether he did not consider the existence of mitotic figures in the cells evidence of growth.

Dr. CARREL, in reply, confessed that he had never been able to secure cultures of polymorphs: only large mononuclear cells remained in cultures of blood cells. The medium used for cultivating leucocytes should contain one-third embryonic juice and fresh serum; leucocytes in culture were very sensitive to disturbance, and it was possible that the necessary mechanical interference by manipulations might account for the difficulty experienced in keeping cultures alive. The best *p*H for tissue cultures was 7.4 to 7.8; media should be retested daily. The growth-promoting substance was once thought to be an enzyme; it was destroyed at 56° C. by shaking, and by Chamberland filtration: it was precipitated by alcohol and acetone with the protein fraction; its chemical nature was unknown. These chemical substances might serve as a source of nitrogenous material for the cells since they would grow in embryonic juice alone. The character of the glassware used for flasks containing media was of the utmost importance: many forms of glass gave off alkali, thereby disturbing the *p*H. Only the serum of young animals should be used, and these must be in good health. The formula for Tyrode's solution was taken from Bayliss's *Physiology*. Dr. Carrel laid great stress on the importance of redistilled water, correct osmotic pressure, and reaction. He had not done many experiments with neuroglia cells. Thyroid cells in culture tended to become surrounded with more actively growing fibroblasts which cut off available food supplies. He distinguished between mere survival and cultivation: the word "cultivation" should only be used when the new tissues actually multiplied and thus increased in mass at the expense of the medium. Weighing was not a practicable method for estimating growth by the means at their disposal to-day. Amino-acids were not utilized by growing fibroblasts; they stimulated migration but did not cause the cells to increase. Migration might occur without growth. Both oxalate and citrate plasma were toxic to growing cells.

At the conclusion of Dr. Carrel's reply the Section passed a hearty vote of thanks to him by acclamation.

THE SECTIONS.

BRIEF SUMMARY OF PROCEEDINGS.

ARRANGEMENTS have been made to publish, during the next few months, full reports of the discussions in the Sections of the Annual Meeting at Bradford. Meanwhile, the notes printed below will enable members who were not present to gain a general view of the proceedings. Any errors to which attention may be drawn will be corrected in the full reports.

SECTION OF MEDICINE.

Wednesday, July 23rd.

CARDIAC IRREGULARITIES: PROGNOSIS AND TREATMENT.

DR. T. WARDROP GRIFFITH (Leeds) opened a discussion on cardiac irregularities, especially in reference to prognosis and treatment. After paying tribute to the writings of the older observers and stressing the debt that British medicine owes to Sir James Mackenzie and Sir Thomas Lewis, Dr. Griffith classified cardiac irregularities into six main groups: (1) sinus arrhythmias; (2) from extra-systoles of various kinds; (3) from pulsus alternans; (4) *a-v* heart-block; (5) from sino-auricular block; (6) from fibrillation and flutter. Tracings were shown exhibiting the conditions which were distinguished by an older generation as irregularity and intermission, and the history of the growth of knowledge of auricular fibrillation was traced. It was pointed out that there was still no adequate explanation of the lack of correspondence between the strength of the beat and the length of the preceding pause so frequently

seen in this condition. The influence of digitalis was next dealt with. Dr. Griffith reminded the meeting that it had been well known for many years that the form of cardiac failure associated with a pulse and cardiac action devoid of rhythm called for the free use of digitalis, and that the influence of digitalis in depressing the conductivity of the junctional tissue was now known to be especially developed in cases of auricular fibrillation. Opinions differed as to whether the beneficial effects of digitalis were due entirely to the diminished number of impulses reaching the ventricle or whether there was also some direct action on the muscle of the ventricle; he was strongly of the opinion that some such direct action must exist. He was also of opinion that the appearance of extra-systoles with a slowing beat was a strong hint to drop the drug, but he did not consider that it was a hint that might not sometimes be neglected. In discussing the influence of quinidine sulphate, he confessed himself convinced by Lewis's experiments that auricular fibrillation and flutter were due to a "circus movement," and that the effect of quinidine in these conditions was due to the lengthening of the refractory period and to the slowing of conduction in the auricular musculature. It was clear that in a certain number of cases the use of quinidine did restore the normal rhythm of the heart. The advantages of restoring the normal rhythm and the dangers associated with the use of the drug were contrasted. The nature and causation of extra-systoles were next discussed and the difficulties to which they gave rise in prognosis were pointed out; on the whole the prognosis depended more on the associated conditions than upon the actual irregularity. In conclusion pulsus alternans and pulsus bigeminus were briefly considered.

Professor John Hay insisted that the important thing was to recognize the nature of the arrhythmia; if that were done prognosis and treatment could be much more easily settled. He pointed out that fibrillation did not necessarily imply a rapid action, and he disagreed with Dr. Wardrop Griffith in his description of auricular fibrillation as a condition characterized by an "irregular irregularity," as that might also be found in cases of premature systole. The characteristic feature of fibrillation was the absence of any fundamental rhythm. The common arrhythmias could be put into two main groups: (1) simple sinus arrhythmias and premature beats; (2) fibrillation. In the first group the arrhythmia might be ignored if there was nothing else wrong; in fibrillation the outlook depended on the response to digitalis, and in fibrillation associated with Graves's disease the response to digitalis was very marked if the toxaemia was adequately treated. The effects of quinidine were discussed and statistics of "permanent cures" were given.

Dr. W. J. Tyson spoke from the standpoint of the purely clinical physician, and after calling attention to the great change in outlook that had occurred in the last forty years said that, although he himself never worked with the polygraph or electrocardiograph, he did not think that his patients had suffered on that account; he, however, acknowledged freely that by these means the knowledge of the classification and diagnosis of heart diseases had been advanced. Illustrating his points with clinical cases, Dr. Tyson insisted that the effect of cardiac disease was to be estimated by the extent to which ventricular action was affected; a man's capacity for work was to be ascertained by putting him to work and noting the reaction. Dr. Foster reviewed the irregularities of the heart in youth, which he said were now viewed much less seriously; he looked very pessimistically upon auricular fibrillation when the damage to the heart was already done. Dr. Halls Dally expressed the view that it was very undesirable to tell patients, especially neurotic ones, that they had any irregularity. He agreed with what had been said about digitalis, but thought that many people were afraid to give it in adequate doses. Dr. Langley advocated the treatment of fibrillation with massive dosage of digitalis on the Eggleston plan, followed by quinidine, and gave details of the treatment. Dr. B. H. Pain and Dr. F. G. Thomson spoke from the point of view of the general practitioner, and Dr. Thomson expressed disagreement with the view that graphic methods were of no value in general practice. Dr. Veale protested against the labelling of patients V.D.H. and D.A.H. Dr. Wardrop Griffith and Professor Hay replied.

Thursday, July 24th.

Jaundice.

Dr. J. W. McNee, opening a discussion on jaundice, stated that his special purpose was to deal more particularly with the practical application to medicine and surgery of the recent advances in our knowledge of jaundice. After a review of previous work he emphasized the importance of the investigations of Professor Hijmans van den Bergh, the basis of which was the development of a delicate method by which minute quantities of bilirubin could be detected and measured quantitatively in small amounts of albuminous fluids. As a result of the methods thus introduced attention had now been transferred from the colour of the skin to occurrences in the blood. Dr. McNee then discussed the reticulo-endothelial system, and the structure of the liver lobules, as points of fundamental importance in recent research work on the metabolism and formation of bile pigment, which must necessarily enter largely into any consideration of haemolytic icterus and toxic and infective jaundice. The experimental production of icterus in birds seemed to show that in them the cells concerned in the breaking down of haemoglobin and the elaboration of bile pigment were the Kupffer cells of the liver and the reticulo-endothelial cells of the spleen, but not the glandular cells of the liver. This view was largely confirmed by others, and, although the results of some experiments were conflicting, a definite answer might soon be expected to the question whether true haemolytic icterus occurred apart from the liver. The clinical evidence for a true haemolytic jaundice was shortly reviewed. Dr. McNee set out the new theory of jaundice, which was based on the belief that the cells of the reticulo-endothelial system elaborated bile pigment, whilst the polygonal cells of the liver passed it on to the bile capillaries. On this theory four varieties of jaundice would appear possible: (1) Bile pigment formed normally by the reticulo-endothelial system and passed on normally through the polygonal cells but obstructed in the capillaries (obstructive hepatic jaundice)—prompt direct van den Bergh reaction. (2) Bile pigment formed normally, but unable to pass on owing to damage to the polygonal cells (toxic and infective hepatic jaundice) —biphasic van den Bergh reaction. (3) Excessive blood destruction and too much bilirubin formed in the reticulo-endothelial system for the polygonal cells to deal with (haemolytic jaundice)—delayed or negative van den Bergh reaction. (4) Damage and disordered function of liver cells, together with obstruction to the bile ducts (cholangitis) —variable van den Bergh reaction. In conclusion, the practical application of the new views and methods was discussed, and reference was made to the extent to which they have modified old ones and improved the clinical observation of icterus.

Professor van den Bergh pointed out that it was Dr. McNee who had first suggested that the cells of the reticulo-endothelial system probably elaborated the bile pigment; he knew of no clinical observation opposed to this theory, which was in entire agreement with his own observations. In dealing with experimental work they must remember that animals varied greatly: thus the dog had an extremely low threshold for bilirubin. Particular credit was given to French authors for their study of the formation of bilirubin and allied pigments in haemorrhagic effusion, which he had studied quantitatively by the diazo method. As a possible explanation of the non-occurrence of icterus in such cases, he suggested that the bilirubin might not be absorbed, or absorbed only slowly, and he pointed out that there were certain little understood physical distinctions between the pigment with the direct and indirect reaction, which might be of importance in this connexion. He wished to emphasize that the quantitative diazo test was not very perfect, but he did not think there was yet a better one; the practical advantages and disadvantages of various modifications were discussed. It was only by some chemical test that bilirubin could be detected when methaemoglobin or haematin was present in the serum, and it was also very

necessary to distinguish between jaundice and the xanthosis that occurred in some patients after eating freely of green vegetables and eggs. In conclusion, Professor van den Bergh pointed out certain clinical conditions in which he had found this examination indispensable for diagnosis, but he emphasized the fact that from time to time exceptions to the general rule of the test were met with which at present it was impossible to explain. Sir William Willcox, after welcoming Dr. McNee's classification of jaundice, criticized the experimental evidence for a true haemolytic jaundice as extremely weak, but the clinical evidence seemed much more conclusive. Toxic jaundice, which in his experience was much more common than was generally believed, might be caused by many agents—chemical, bacterial, and protozoal—and by auto-intoxication. In attacks by these agents it was the liver that formed the main defence of the body, and he referred to that as the "toxiphylactic" function of the liver. The liver cells might often be protected by giving glucose. In the case of catarrhal jaundice he was certain that the French school was right, and that the disease was really a hepatitis probably due to a bacterial poison. Dr. Langdon Brown referred to the advantages of the modern classification, and said that one of the great attractions of the new theory was that it explained so much that had previously been obscure. He agreed with Sir William Willcox's views of catarrhal jaundice. Dr. Tidy asked where the difference lay between patients with pernicious anaemia, in whom jaundice was practically never seen, and patients with acholuric jaundice; in both cases there appeared to be excessive blood destruction. He also suggested that it might be possible to distinguish by the van den Bergh test between cases of true Banti's disease passing on to cirrhosis and other forms of splenic anaemia.

Sir Berkeley Moynihan spoke from the surgeon's point of view, and said that the clinical term "Banti's disease" was merely the name of a terminal state that resulted from many different conditions. He expressed the immense debt owed to Dr. McNee and Professor van den Bergh for their research on this subject, and urged closer co-operation in research between medicine and surgery. Dr. Platt reminded the meeting that Professor van den Bergh had himself demonstrated the bilirubin content of the splenic vein to be higher than that of the splenic artery. He suggested that in acholuric jaundice the red cells might really be unduly resistant to abnormal osmotic pressure; and asked whether the urobilin in the urine was always increased when there was an indirect van den Bergh reaction. Dr. Paramore discussed the etiology of toxic jaundice with special reference to the pernicious vomiting of pregnancy. Dr. McNee and Professor van den Bergh replied to the questions put to them.

Friday, July 25th.

DIAGNOSIS OF SMALL-POX.

A discussion on small-pox, with special reference to diagnosis, was opened by Dr. McConnel Wanklyn (London). Dr. Wanklyn first took a general survey of small-pox, the disease or the mischief that had to be done away with; and maintained that it was necessary, not to focus attention on this or that particular pathological or clinical point, but to surround oneself with the psychological atmosphere of small-pox. The right attitude to adopt towards small-pox was expressed in the words "the less one sees of it the better." All efforts should be directed towards stripping down its defences, attacking its vulnerable points, and destroying it at its start. Small-pox had been protected by misunderstanding, and it was the duty of the medical profession to remove this. Competent authorities at the present time were not so much concerned with the actual small-pox returns as with the freedom of the people from its menace, and concentrated not on a zero of small-pox but on 100 per cent. of small-pox free efficiency—that was, health. Curves were shown of the London figures for the past twenty years of freedom from small-pox and percentage of vaccinations to births. The striking feature was that whereas vaccination, the chief weapon against small-pox, had steadily fallen, the freedom from small-pox nevertheless stood higher than ever it did. The explanation lay not in any decrease in the virulence of small-pox, nor in improved sanitation, but entirely on the team work of the profession and the voluntary civic spirit of its members. Small-pox was as great a danger to the country as ever it was; the decreasing use of vaccination rendered the people almost defenceless to it; and but for the ceaseless effort of the medical officers and their colleagues it would sweep again across the country as calamitously as ever. In diagnosis it was necessary to discard the unimportant and concentrate on the essential features. First came the question, "Can this be small-pox?" bearing in mind in schematic form the different stages and varieties of the disease. It was unwise to put too much reliance on certain old friends such as umbilication, shottiness, uniloculation, cropping, rash in different stages, rash on the soles of the feet, spots on the palate. The master cards were (1) prostration; (2) distribution (on the skin); (3) localization (in the skin); (4) maturation.

A paper by Dr. C. Killick Millard (Leicester) was read in his absence by the Honorary Secretary. He entirely agreed with Dr. Wanklyn as to the fundamental importance of correct diagnosis, and thought that no medical student should be allowed to practise until he had given evidence that he was fully qualified at least to suspect small-pox when he met a case. He also agreed with the opener as to the uselessness of the old textbook signs; the most important point was the distribution of the rash. In using this test it was best to ignore the head and neck and to divide the rest of the body into (*a*) trunk, (*b*) limbs. Lesions more numerous on the trunk meant small-pox, lesions more numerous on the limbs characterized chicken-pox. With regard to the general aspect, his experience at Leicester taught him that vaccination had an unmistakable power to protect the individual, but that the value of infant vaccination as a protection for the community had been greatly overestimated.

Dr. R. P. Garrow (Chesterfield) gave a detailed account of his experience of the epidemic of mild small-pox prevalent in Chesterfield. He emphasized the various distinctions between this and virulent small-pox, and stated that up to date they had had no case of virulent small-pox. Dr. E. H. Snell (Coventry) pointed out the administrative difficulty in dealing with an epidemic in which many cases only showed a few pimples, probably more cases passing unrecognized than recognized. Colonel Penny stated that his experience in Burma was that even in the Asiatic form the disease was often extremely difficult to diagnose. Dr. J. A. Watt (Derby) spoke of the cases in Derby, which were very similar to those in Chesterfield. Dr. Mercer said that in New Zealand the vaccination laws had been allowed to lapse.

Dr. F. W. Eurich (Bradford) read a paper on the clinical features of anthrax, illustrated by lantern slides. He stated the need for early diagnosis, which must be by the microscope. With regard to treatment, he did not excise the pustule except under certain conditions; the part was kept absolutely at rest, and Sclavo's serum was given in large doses, with 80 c.cm. for the initial dose. Dr. Mitchell suggested the use of diathermy as an alternative to excision. Dr. Renshaw suggested the administration of auramine. Dr. F. C. Eve (Hull) read a paper describing the domestic estimation of urinary sugar, a method by which the patient could estimate the quantity of sugar passed. The principle of the method was to take the specific gravity of the urine before and after fermentation by yeast.

SECTION OF SURGERY.

Wednesday, July 23rd.

ACUTE OSTEOMYELITIS.

THE President, Sir Cuthbert Wallace, introduced Mr. John Fraser (Edinburgh), who opened the discussion on osteomyelitis.

Mr. Fraser said that osteomyelitis was looked upon as "nobody's child," because it brought little credit to the surgeon, it was a source of worry, and was frequently followed by untoward results. He thought that the nomenclature applied to bone was important, and recognized diaphysis, epiphysis, epiphyseal cartilage, and metaphysis. The metaphysis was the pre-eminently important

part, existing as it did between the diaphysis and epiphyseal cartilage. Osteomyelitis was always a central lesion, and he had never seen an acute primary periostitis. The majority of cases were the result of a blood-borne infection, but in a few the infection entered from a neighbouring focus, as happened in cases which followed infection of neighbouring joints. The infection arose from the teeth, throat, or skin, but he thought that the umbilicus was also a frequent source. There were three stages. In the first there was an intense infection of the medulla, and the inflammatory products were under extreme tension. In the second stage there was a spread of infection to the subperiosteal area, and this was characterized by relief. The third stage was one of reaction, and the osteoblasts of the periosteum were activated. He did not think operation was necessary in every case. About 15 per cent. of the cases were caused by the pneumococcus, and these should be left alone. In the ordinary acute case he opened the bone over the metaphysis and passed along the bone until healthy marrow was found; he never scraped out the marrow. He had abandoned subperiosteal resection of the bone. For the general treatment he used vaccines and blood transfusion.

Mr. Maybury (London) said that in the early stage there was often local pain in several bones which usually rapidly disappeared from all except one bone. These cases were likely to be mistaken for acute rheumatism. He thought that the disease was capable of undergoing spontaneous cure, but for a severe infection operation on the local lesion was urgently called for; for a mild infection expectant treatment should be adopted. He showed slides of skiagrams of a humerus affected with osteomyelitis. Mr. Acton Davis (London) said his main point of disagreement with Mr. Fraser was with regard to operation. He was strongly in favour of subperiosteal resection of the shaft. He preferred diaphysectomy, because of (1) rapidity, (2) completeness, (3) absence of subsequent cavitation of the bone. The main objection was failure of alignment, but that could be avoided if attention were paid to extension. Mr. Mitchell (Aberdeen) disapproved of the gutter operation, because the disease frequently spread to other bones and the joints became infected, and amputation had sometimes to be performed. He thought that in very bad cases operation was useless. When the local condition was not spreading the gutter operation was sufficient, but usually in bad cases he performed subperiosteal resection, put the limb in a Thomas splint with extension applied, and encouraged the patient to move his muscles. He found vaccines useful.

Thursday, July 24th.

PULMONARY EMBOLISM.

At this session Mr. G. E. Gask was in the chair, and Mr. Lockhart-Mummery (London) opened a discussion on pulmonary embolism. He said that pulmonary embolism was by no means always fatal, and he thought that most cases of so-called post-operative pneumonia were really cases of pulmonary embolism. In this condition the dangerous period was during the first few minutes. In non-fatal cases the dyspnoea soon passed off and the pain in the chest subsided. Examination of the chest revealed an area of dullness and tubular breathing. He divided cases of pulmonary embolism into: (1) those in which death occurred instantaneously; (2) those in which death occurred a short time after an acute crisis; (3) those in which the patient recovered after a crisis. Any study of post-operative pulmonary embolism showed that, in most of the cases, the operation had been upon the abdomen and lower limbs. He believed that operations upon the upper part of the body did not cause such a degree of venous stasis in the vena cava as operations upon the abdomen. He could not accept the belief that embolism was due to sepsis. His theory was that the operation predisposed to embolism by liberating thrombokinase into the circulation, and by producing venous stasis near the walls of the great veins. He thought that the best method of preventing post-operative thrombosis consisted in altering the methods of preparation and of after-treatment. Preliminary purgation should be abolished, and the practice of starving the patient before and after should be discontinued; the patient should be prevented from assuming a constrained position during the operation. Sir Charles Gordon-Watson laid stress on loss of fluid before, during, and after an operation as a factor in stasis, and on immobility after operation as well as posture during it, which interfered with the flow of blood through the vena cava. He argued that massive embolism could only occur when the thrombus was lightly attached to the walls of the veins and active phlebitis was absent, whereas in pulmonary infarction the reverse was the case, and septic phlebitis was usually present. He advocated morphine and amyl nitrite with oxygen during the attack, and was very insistent on early movements and respiratory exercises after operation. Professor Shaw Dunn said that in the *post-mortem* room pulmonary embolism was seldom found to be the cause of post-operative deaths. In immediately fatal cases the morbid appearances were fairly uniform, and an elongated mass of dark red clot was found, coiled up at the bifurcation of the pulmonary artery. The site of the thrombus should be looked for in some large vein near the operation area. Some degree of septic infection frequently existed, so frequently that he thought it was invariably present. Professor Ernest Glynn, associated with Dr. Maurice Cohen, produced evidence that primary pulmonary thrombosis was a cause of sudden death, and was more frequent than pulmonary embolism. Stasis and mild sepsis were two main factors in the production of the thrombosis. Stasis could be diminished by post-operative exercises, including deep breathing.

Friday, July 25th.

At the third day's session Mr. Harold Burrows took the chair, and Mr. T. P. Dunhill read a paper on auricular fibrillation in Graves's disease. Among the cases of exophthalmic goitre operated upon by him there were a number who had irregular heart action; he believed that hyperthyroidism was present, and it seemed proper to reduce the amount of the secreting gland. The degree of improvement varied. Patients were not infrequently seen who had auricular fibrillation associated with goitre, but in whom the goitre was not the cause of the auricular fibrillation. It was necessary to be alert for this type of case. Auricular fibrillation was one not infrequent result of thyroid toxaemia, and it might result either from toxic adenoma or from Graves's disease. In toxic adenoma it might disappear when the adenoma had been removed. In Graves's disease it might disappear temporarily when the vessels had been tied, or when one lobe had been removed, but, in his experience, it had recurred under stress. Mr. G. L. Keynes read a paper on blood donors. He said that the performance of a blood transfusion postulated the presence of a suitable donor, and in hospital practice this was too often left to Providence. A blood donor did not experience any suffering. He had proved that a healthy man could give 750 c.cm. of blood, or even more, without any ill effect, and could perform his work efficiently afterwards. An American writer had shown that many blood donors experienced not only a feeling of well-being, but also an increase in weight after the operation. A loss of 500 c.cm. of blood could be made good in less than a week. Men were more suitable than women; the donor should be young and healthy, and his Wassermann reaction must be tested. He believed that the supposition that individuals belonging to Group IV were "universal blood donors" was only an approximation to the truth, and he thought that it was safer to give some patients the blood of their own group, especially in cases of blood diseases, such as pernicious anaemia. Mr. Winsbury White read a paper on hydronephrosis. He said that the disease was especially common in the third decade of life, but that it might commence very early or very late in life. It involved either kidney in about equal frequency, and was twice as common in the female as in the male. The so-called cardinal symptoms were seldom evident. Pain was the most common symptom, and was most severe in the earliest cases. A palpable enlargement of the kidney was as often absent as present. Haematuria was a common complication, and resulted either from a superimposed infection or from obstruction of a vein by

pressure between an artery and the distended pelvis. Pyelography was not required as a routine measure in the examination of the urinary tract, but in the hands of one who understood it it settled the diagnosis in hydronephrosis. Mr. Goyder read a paper on cleft palate. He said that the beak-like protuberance of the intermaxillary was so pronounced, and the strain put upon the edges of the double hare-lip by suture of both sides simultaneously was so great, that surgeons formerly removed the premaxilla. It was not necessary to close both sides of the lip at once. One side was closed in the first few weeks of life, and the other in about two months. In his experience good speech after operation was rare. Closure of the cleft was an easier problem to solve than that of producing clear articulation.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

Wednesday, July 23rd.

ANTE-NATAL CARE IN PRIVATE PRACTICE.

DR. J. ABERNETHY WILLETT (London) opened the first session of the Section of Obstetrics and Gynaecology, under the presidency of Dr. J. S. Fairbairn, with a paper on the methods of the ante-natal clinic and their application to private practice. Basing his remarks on a year's practice in the ante-natal department of the City of London Maternity Hospital, he dealt first with the aims and objects of ante-natal work, then with the methods of attaining these, and, finally, with the results gained. He explained the importance of adequate supervision of the patients as soon as possible after conception, and described special educative, preventive, and therapeutic measures that might be required in the period up to the time when the child was viable. Passing to the ensuing period, he stated that out of 2,145 patients examined at the twenty-eighth week, 204 showed the presence of some abnormality which required treatment. Albuminuria was present in 57 cases out of the 204: in no case did eclampsia develop, but probably there was some permanent damage to the kidney. Breech presentations occurred more commonly than was generally thought; early diagnosis was important, since the earlier that external version could be performed the more easily was it effected. Dr. Willett next dealt with methods of pelvic examination, and for estimating the fit of the foetal head. The findings by vaginal examination should be regarded as confirmatory. Personally he found himself relying more and more on the results obtained by abdominal examination. He declared himself a strong advocate of the induction of labour in suitable cases, since slight prematurity was of little consequence if the infant had been delivered uninjured. He concluded with a reference to the serious results that followed when ante-natal supervision had been omitted.

Dr. E. K. Mackenzie (Tain, Ross-shire) gave a detailed account of the ante-natal methods he used in rural practice. When first engaged he made a thorough physical examination, and saw the woman again about the fifth month. Unless conditions requiring special supervision were detected, his final ante-natal visit was paid about a week before the expected confinement. Major E. L. Moss, C.M.G., R.A.M.C. (Aldershot), considered that the unavoidable death rate in properly supervised pregnancies was 1 in 2,000, and described the satisfactory conditions existing in the case of the wives of soldiers. Dr. Rhoda Adamson (Leeds) gave a summary of the ante-natal work in Leeds. Mr. Aleck Bourne (London) and Dr. A. F. Martin (Bradford) spoke on, among other subjects, the value of pelvimetry. Dr. T. H. Richmond (Stoke-on-Trent), after touching on several points of treatment, observed that it would probably be many years before the ideal of treating every labour in an institution would be attained. Dr. R. W. Johnstone (Edinburgh) referred to the pioneer work of the late Dr. J. W. Ballantyne in this branch of obstetrics, and described the method of induction used in Edinburgh. Dr. F. Edge (Birmingham), Dr. Marion E. Mackenzie (Leeds), and Dr. Janet E. Campbell (London) continued the discussion; and the President, Dr. J. S. Fairbairn, made some observations. Dr. Willett replied to the points raised by various speakers.

Thursday, July 24th.

The work of this Section on the second day of the meeting consisted of the reading of four short papers and a discussion on each of them. The proceedings were opened by Professor B. P. Watson (Edinburgh), who took as his subject imperfect urinary control following childbirth and its surgical treatment. Professor Watson commented upon the frequency with which, when questioned on the subject, women admitted the loss of control of their urine under any sudden strain—a laugh, a cough, the lifting of a heavy weight, very often resulted in the escape of a few drops of urine, or sometimes of quite a stream. The patients in the vast majority of cases were parous women, the condition being comparatively rare in nulliparae. In a series of 183 cases of cystocele, incontinence was present in 120 cases. His views as to the nature and causation of the trouble were identical with those of Victor Bonney. In all patients presenting this symptom he had found a marked sagging of the neck of the bladder away from its proper situation behind the pubes. In many cases of cystocele this sagging might not be at all pronounced or might be entirely absent. If the neck of the bladder was braced up this symptom did not occur. It was not due to any damage to the sphincter itself, but to stretching and consequent weakening of the musculo-fascial sheath which normally supported the base and neck of the bladder. He thought that the cause of the condition was the strain thrown upon the anterior vaginal wall when the head came forward over the perineum, and it was aggravated by the obstetrician's attempt to "save the perineum" by restraining the sinciput and pushing the whole head forward before the occiput had come right underneath the pubic arch. For this reason he never hesitated when the pelvic floor was unduly resistant to perform an episiotomy; this measure he did as a routine in breech cases in primiparae. Another causative factor was the pushing down of the anterior lip of the cervix by the head of the child. Professor Watson then explained how the musculo-fascial band could be easily demonstrated at operation, and he explained step by step the operation which he had devised to restore the neck of the bladder to its proper anatomical position. He supplemented his description by a demonstration of lantern slides. Out of 105 patients operated upon in the manner described, 69 had regained perfect urinary control, in 23 control was much improved but was not quite perfect, and in 13 there had been no improvement. A short discussion followed, in which the President, Mr. Miles Phillips (Sheffield), and Dr. R. W. Johnstone (Edinburgh) took part.

Mr. James Phillips (Bradford) followed with a paper on the investigation, pathology, and treatment of uterine haemorrhage about the climacteric. He laid emphasis upon the difficulty of excluding cancer in every case, even after microscopic examination, and he maintained that hysterectomy was the safest treatment for haemorrhage at the menopause and also gave the patient the most comfort. Radium might check actual bleeding, but there were frequently other factors present which caused more discomfort to the patient, such as a heavy drooping uterus, and these radium could not touch. The paper was discussed by Dr. J. J. Bell (Bradford), Professor Watson (Edinburgh), Mr. Miles Phillips (Sheffield), Dr. Gordon Luker (London), Dr. W. W. King (Sheffield), the President, and Dr. J. J. Holland (Western Australia). Mr. Miles Phillips (Sheffield) then read a paper entitled "The advisability of a routine pelvic examination during the puerperium." He strongly advocated a thorough and complete examination of all patients on the twelfth day, before they were allowed out of bed, and again at the termination of the fourth to sixth week of the puerperium. Just as ante-natal care prevented abnormal midwifery, so should post-natal care obviate much of the subsequent trouble which filled the out-patient department of every special women's hospital. The paper was discussed by Dr. R. W. Johnstone (Edinburgh), Professor Watson (Edinburgh), Miss Frances Ivens (Liverpool), and Dr. McGregor Young (Leeds). The morning's work terminated with the reading of a paper by Dr. W. W. King (Sheffield) on the clinical aspects of adenomyomata of the pelvis. Dr. King's paper was a personal record of 123 cases which he had operated upon, 53 of these being growths

of the recto-vaginal space and involving the rectum in about half the number. Hysterectomy with removal of the ovaries had proved to be the most certain cure, but less radical measures were often followed by success. Professor Watson, Dr. R. W. Johnstone, and Dr. Luker commented upon the paper.

Friday, July 25th.

DYSMENORRHOEA IN YOUNG WOMEN.

The third day's work of this Section consisted of a discussion on dysmenorrhoea in young women, its incidence, prevention, and treatment. The opener was Dr. Alice E. Sanderson Clow, and she commenced by defining dysmenorrhoea as suffering of any kind associated with the menstrual period. She had questioned 2,050 girls between the ages of 12 and 22, and, using this definition as a standard, she had found that in 78 per cent. menstruation was unaccompanied by any pain or discomfort, while in the remaining 22 per cent., in 3 per cent. only was suffering so severe as to be described as disabling. The incidence of dysmenorrhoea was thus lower than that quoted by other observers. She considered it to be quite unnecessary for so many as 22 per cent. of girls to suffer during the period. She thought that many gynaecologists had a wrong impression of what a normal menstruation should be, and that it was wrong to teach that the monthly period should be regarded as a time of semi-invalidism. Normal menstruation should be a painless function, during which the daily bath and exercise should be continued as usual. Dr. Clow quoted the leaflet issued by the council of the Medical Officers of Schools Association, in which girls are urged to have their warm bath and to take regular exercise during the period, and to obtain a daily action of the bowels. She quoted figures to show how the incidence of dysmenorrhoea among the girls who had followed her advice had diminished to a striking degree. The best means of reducing the incidence of dysmenorrhoea throughout the country would be to teach every schoolgirl the simple rules of hygiene of the menstrual period. If dysmenorrhoea came to be looked upon as a disqualifying complaint in a woman worker, many of the cases which could be cured by exercise would disappear, and the others, instead of suffering in silence, would seek treatment from their doctors, and thus would be removed the chief source of the inefficiency of the unmarried woman worker compared with the man. In regard to treatment, she strongly advocated that a course of baths and exercise should be tried for at least six months before any other measures were employed in all cases where examination failed to show any evidence of disease or structural abnormality. In her experience it was very exceptional to find cases which were not cured by this simple means. If she had to use a drug she usually prescribed ammonal. She felt certain that cases of dysmenorrhoea in industrial workers would almost entirely disappear if this complaint was ruled out as an excuse for granting leave of absence.

Dr. Leonard G. Phillips, who followed, agreed with Dr. Clow as to the excellent results of simple hygienic measures in a very large number of cases, but he could not go so far as to claim that baths and exercise would cure every case of dysmenorrhoea. He had records of 500 cases of bad dysmenorrhoea; a certain percentage of these had been cured by the correction of faulty hygiene, but there remained a small number whom nothing but radium or hysterectomy could touch. He pleaded for a classification based on the clinical types met with, and commented upon the constant association of sterility with severe dysmenorrhoea. Mr. E. B. Turner testified to the great success he had obtained by following out Dr. Clow's rules in a large girls' school and a hostel for young business women. Dr. Catherine Chisholm (Manchester) and Dr. Rhoda Adamson (Leeds) quoted from their experience in connexion with large girls' schools, university students, and factory workers, and were agreed that disabling dysmenorrhoea was of very rare occurrence. Dr. Minnie Madgshon (G.P.O., London) produced figures obtained from 10,000 girl postal workers to show how very rare really severe dysmenorrhoea was. Dr. Watson (Leicester) gave further support to Dr. Clow's statistics from her own experience as a county medical inspector. Dr. W. A. Potts (Birmingham) entered a plea for the psycho-therapeutic treatment of cases which had resisted all other forms of therapy, and which had no gross surgical lesions. Mr. Aleck Bourne insisted that there were a number of cases which absolutely resisted every form of treatment. In these the only thing to do was either to expose them to radium or perform hysterectomy. Dr. J. J. Holland (Western Australia) held that the pain was more commonly of ovarian than uterine origin. Sir Malcolm Watson (Federated Malay States) said that white women in the tropics commonly suffered from excessive loss. He would henceforward alter his methods and ask them to take more exercise in spite of the heat.

The President welcomed the great help which had been rendered by medical women in giving them a clear understanding of this subject. As specialists they were apt to get a false impression, because they only came into contact with the worst cases. There was a very large attendance, including a number of medical women, and the discussion was followed by a deeply interested audience.

SECTION OF PATHOLOGY AND BACTERIOLOGY.

Wednesday, July 23rd.

TISSUE CULTURE.

THE first contribution to this Section was a paper by Dr. Alexis Carrel on tissue culture and its bearing on pathological investigation. It was published in full, with illustrations, last week (p. 140). Many of those who had listened to Dr. Carrel's clear and interesting address took part in the subsequent discussion, which is reported at page 181 of this issue. An enthusiastic vote of thanks was accorded to Dr. Carrel for his authoritative survey of this important subject.

PROTOZOAL INFECTIONS OF THE INTESTINE.

Mr. A. Malins Smith read a paper on the incidence and spread of protozoal infections of the intestine in the population of Great Britain. Before the war it was generally believed that *Entamoeba histolytica* was not to be found in the intestines of healthy people in Great Britain who had never lived abroad. Researches carried out between 1916 and 1919 had altered this opinion, for he found pathogenic amoebae in large numbers of people in England who had never left this country, the pathogenicity of the discovered amoebae being proved by feeding tests. In a total of 2,137 people examined who had never been abroad he found 3.4 per cent. to be carriers of *Entamoeba histolytica*. As the cysts were the usual infecting agents and were rapidly destroyed by drying and would not live long outside the body, he thought the conclusion must be drawn that these cysts were distributed by defective personal or social hygiene. Both in the tropics and at home the patients who actually suffered from amoebic dysentery represented but a small proportion of those who harboured this parasite.

"THE SIGMOID LEECH."

Dr. C. E. Dukes described an apparatus, designed by himself, for obtaining cultures of bacteria from the colon. It consisted of a long glass tube attached to a bottle, evacuated by means of a water pump or hand pump and fitted with a vacuum gauge for indicating the pressure. A cup at the end of the long glass tube contained a small plug of sterile cotton-wool. During examination with the sigmoidoscope this "sigmoid leech" could be applied to an ulcer or inflamed area of the bowel wall and the bacteria sucked through on to the cotton-wool plug, which was removed with sterile forceps and transferred to nutrient broth. From this tube of nutrient broth subcultures could be made on to such media as serum and blood agar.

Thursday, July 24th.

IMMUNITY.

"Immunity, with particular reference to specificity and the influence of non-specific factors," was the subject discussed at the second session of the Section of Pathology and Bacteriology. Dr. R. A. O'Brien (London) read the first paper, and approached the subject entirely from the point of view of the laboratory worker. As instances of rigid

specificity he quoted the reaction of diphtheria antitoxin with diphtheria toxin, and compared this with phenomena to which the rigid laws of specificity cannot be applied, such as the Wassermann reaction. As instances of non-specific reactions he referred to the benefits claimed from injection of peptone in various diseases, and explained that laboratory tests for the most part failed to give any evidence that injection of peptones increased recognizable antibodies such as antitoxins in the blood. He quoted a number of experiments carried out to confirm the claims of others that various organic or inorganic substances stimulated antibody production: he found little evidence that such was the case. But the fact that satisfactory confirmation of the claims of non-specific protein therapy had not been secured by laboratory tests did not necessarily disprove the statements of clinicians. The laboratory investigator had an easier task than the clinician because the guinea-pig was insusceptible to suggestion. The clinician had a double task: he must seek the truth and also cure his patient. Dr. P. Hartley (London) pointed out that by means of immunity reactions we could distinguish between substances which by all known methods of chemical analysis appeared to be identical. Analytical figures obtained for the total protein of ox and horse serum, as well as the albumins and globulins from each type of serum, revealed no points of difference between corresponding proteins; immunity reactions, on the other hand, demonstrated that these substances were essentially different. He quoted the work of Avery and Heidelberger, who isolated from autolysed cultures of pneumococci the soluble substance which precipitated specifically anti-pneumococcus serum of the homologous type, and demonstrated the presence of this substance in the blood and urine of experimental animals and lobar pneumonia patients. This substance was essentially a polysaccharide; it was incapable of stimulating antibody production, though serologically it was sharply type-specific. Professor T. J. Mackie (Edinburgh) remarked that though the specificity of acquired immunity had been one of the basic principles in immunization, and while this principle had dominated the study of immunity and its applications, non-specific factors had long been recognized in the resistance of the tissues to microbic infection—for example, the reaction of inflammation, phagocytosis, the normal opsonin and alexin of blood serum. After a review of a wide field he concluded that while specific immunization must be regarded as the most effective method by which tissue resistance was increased, the development of an acquired specific immunity or the output of specific antibodies might be influenced secondarily by non-specific or heterologous effects. Professor W. J. Tulloch (St. Andrews) declared that each disease-producing microbe should be studied to determine its mechanism of infection, its mechanism of disease production, and its mechanism of causation of death. Any one of these might be of outstanding significance and might be related to a particular moiety of antigen, or to special combinations of antigens; problems of specificity arose at every turn. The *in vitro* methods, notably agglutination and absorption of agglutinins, sometimes gave ultraspecific results, but that was because the major factor in disease production by some species of germs was not resident in the germ protoplasm but in certain products of growth; the former might be more specific than the latter. Exotoxins therefore were only partial antigens and antitoxins were only partial antibodies.

Dr. S. Davidson (Edinburgh) reported a research undertaken to compare the antigenic properties of simple heat-killed vaccines, detoxicated vaccines, and defatted vaccines. Tested by agglutination and complement fixation tests it appeared that the antigenic properties of detoxicated and defatted vaccines were greatly inferior to heat-killed bacillary emulsions. Dr. D. Campbell (Glasgow) reminded his audience that natural immunity could not be explained by the doctrines of specificity; no specificity was obtained in the response to irritation familiar as inflammation. Also, many people recovered from infections before the easily recognized so-called specific antibodies appeared in their blood. He related an experience, extending over three and a half years, of treating over a hundred cases of rheumatoid arthritis by protein shock therapy. The intravenous or intramuscular injection of a foreign protein resulted in a general reaction on the part of the body in the shape of a temporary elevation of temperature, increase of polymorphs in the blood stream, and possibly increased production of tissue enzymes. His experience had led him to the conclusion that non-specific protein therapy was a valuable addition to our therapeutical resources in dealing with joint diseases.

Dr. E. M. Dunlop (Glasgow) reported some clinical and laboratory observations on cases of rheumatoid arthritis treated by protein shock therapy, work carried out in conjunction with Dr. Campbell. The protein was administered in the form of a typhoid vaccine, and the patient's serum was examined from time to time in order to determine how far, if at all, the relatively small doses which were being given might lead to the production of agglutinins for *B. typhosus*. Two conclusions could be drawn from this work: one was that the treatment of microbes with alkali, as in methods of detoxication, greatly damaged their antigenic value. The other suggested that non-specific therapy (protein shock) might evoke a specific antibody response. Dr. R. Row (Bombay) read a short paper discussing some products of autolysed tubercle bacillus cultures with special reference to their antigenic and curative value. By the injection of autolysed tubercle bacilli into tuberculous guinea-pigs he had been able to improve their condition, and he showed a series of temperature charts illustrating the application of this new form of treatment to sick people.

Friday, July 25th.

At this session Professor M. J. Stewart (Leeds) read a paper on xanthoma and xanthosis. The cutaneous form of lipoid deposition known as xanthoma of the skin he regarded as a local manifestation of hypercholesterinaemia; in one patient he found the blood cholesterin raised from the normal of about 0.18 per cent. to as high as 3.8 per cent. Once the xanthoma tumour had formed it might persist after the hypercholesterinaemia had disappeared. In "strawberry gall bladder," another form of xanthoma, the proof was not complete that the lesion sprang from hypercholesterinaemia, though this was probably the case. He described similar tumours found in the choroid plexus and in atheroma. Xanthosis was to be regarded as a local manifestation of a similar lipoid degeneration. Dr. Archibald Leitch (London), in his paper on mule-spinners' cancer, stated that 20 per cent. of cancers of the scrotum occurred in cotton spinners and 7 per cent. in chimney-sweeps, and suggested that some factor existed in the nature of the mule-spinner's occupation which predisposed to malignant disease. He commenced experiments last year with the lubricating oils used by mule-spinners, and found that some would produce cancer in mice when painted on the skin; in other cases he was unsuccessful. Many lubricating oils were now being examined. The question arose why the scrotum should be the site of the disease, an answer to which might be found, perhaps, in the fact that the oils were retained in the sebaceous glands and some irritating material soluble in sebaceous fat was extracted. In answer to other speakers Dr. Leitch suggested that in the hot atmosphere of the factories the mouths of the glands dilated and in colder surroundings the oil was sucked in.

Dr. J. E. McCartney (Edinburgh) read a paper on the criteria of transmission and cultivation of encephalitis and allied viruses. He reported a research undertaken to test the validity of the histological changes said to be distinctive of virus infections in the brains of rabbits. Experimenting with 372 rabbits, some of which were free from disease, whereas others suffered from bacterial or protozoal infections, he found that 55 per cent. showed lesions such as perivascular infiltration, commonly taken as a sign of virus infection, and 15 per cent. showed areas of focal necrosis, claimed by many to be peculiar to encephalitis infection in rabbits. He concluded that the evidence of the transmission of virus disease which was based only on histological findings was valueless. His researches had led him to study the growth of the virus of encephalitis lethargica and kindred infections, and he experimented with three viruses. He found that the commonly employed Smith-Noguchi medium was not at all suitable for the cultivation of these

viruses, but they grew better in simple dextrose broth incubated anaerobically.

Dr. J. Cruickshank recounted observations on the *B. acidophilus*. His technique for isolating this microbe consisted in making a thick emulsion of the stool in broth, adding 1 per cent. glacial acetic acid, incubating overnight, and plating out on ordinary agar. After obtaining pure cultures he studied the sugar reactions of many and attempted to place them in groups. Great diversity was found both in morphology and sugar fermentations. Agglutination tests were resorted to, but even by this method he was not able to group these bacteria successfully. He concluded that several different varieties of aciduric bacteria existed in the faeces. Dr. R. P. Smith had carried out a similar study, but used whey broth or liver glucose agar as medium. By administering three times a day two and a half pints of milk soured with *B. acidophilus* he had succeeded in transforming the faecal flora of typhoid carriers so that film preparations showed 90 per cent. of Gram-positive rods in the faeces. He was not able to implant *B. bulgaricus* by feeding tests. He succeeded in implanting *B. lactis aerogenes* in the intestine of typhoid carriers only after preliminary injections of vaccine. As to the therapeutic results of such feeding experiments, he had come to the conclusion that chronic constipation could be relieved but the typhoid bacilli could not be expelled from the intestinal tract of carriers by such means. Dr. C. E. Dukes reported that he had succeeded in transforming the faecal flora both of healthy individuals and of cases of ulcerative colitis by feeding with large quantities of lactose. This was attended by benefit in patients with inflammation of the large bowel whose stools showed the presence of non-lactose fermenting bacteria. After a course of feeding with lactose these non-lactose fermenting bacteria could no longer be found. He considered that the acidophilus group of bacteria was a very large one and contained many subgroups. Dr. Cruickshank agreed as to the great variety of these microbes. He described the different types of colonies found in solid media, and stated that he had found *B. acidophilus* as well as *B. bifidus* in the stools of breast-fed infants.

SECTION OF NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

Wednesday, July 23rd.

CERTIFICATES IN MENTAL DISORDERS.

THE proceedings in this Section opened with a discussion on certificates in mental disorders from the medical and social aspects. The President (Dr. Grainger Stewart), in his introductory observations, said that the officers of the Section had endeavoured to choose subjects that would be of interest to the profession as a whole—to general practitioners as well as to specialists. The subject of certification in mental disorder had received much attention from the lay press, and had, he feared, at times been misrepresented. Hence it was profitable to discuss the true position. The first question should invariably be, "What is best for the patient?" The opening paper was read by Dr. H. Yellowlees (York), and was of great interest in the various points it raised. He began by commenting upon the form of certificate, which dealt essentially with the patient's social relations rather than with his mental state. It was primarily concerned with his fitness for detention and not with his unsoundness of mind. The Lunacy Act was only interested in mental disease if and when it rendered a patient fit for detention. This fact had an important bearing on the course the practitioner must adopt when writing a certificate. The word "detention" signified a keeping against the will, and there was no glimmering of the idea that a patient might be not only willing but anxious to stay under care and treatment. Dr. Yellowlees then referred to the weak points in the present method of certification, particularly the signing of the reception order by magistrates—as distinct from county court judges—who were often quite ignorant of the detailed requirements of the law which they were called upon to administer. He cited amusing instances in which mistakes had been made, and pointed out that the rectification of such irregularities—ironically enough—fell upon the Board of Control and the medical superintendent of the hospital to which the patient had been admitted. This system of certification was then contrasted with the method existing under Scottish law, the latter appearing to be preferable.

Dealing with borderland cases, Dr. Yellowlees feared the public was being misled on the subject. A true borderland case, he considered, did not become insane, while a mild or incipient case of mental disorder was by no means necessarily curable: the acute recoverable cases were, on the whole, far more abnormal in conduct than the permanently and hopelessly insane. Dr. G. W. B. James (Moorcroft House) dealt with the various clinical points which were of help to the practitioner when certification was in question. Important considerations were: (1) the degree of insight the patient had into his own condition; (2) suicidal impulses; (3) danger to others. He also mentioned the surprising fact that although a patient was under certificate in a mental hospital he was quite at liberty to refuse treatment. Dr. J. H. Thornley (Scarborough) discussed the question from the point of view of the general practitioner. He agreed with Dr. Yellowlees that the system of certification in Scotland was superior to that in England, and pleaded for the appointment by the State of a mental expert who should give advice—for private and poor patient alike—on the question of certification, and, if necessary, be a signatory of one of the certificates. He also considered it advisable to introduce a form of "temporary certification"—a method by which borderland cases could be detained temporarily for observation and reflection before a definite opinion was given. Dr. Russell (North Riding Mental Hospital) considered that we should do all in our power to elevate the mental hospital and to certify in modified form, so that cases would be received earlier and the suicide of many incipient cases avoided. He also advocated a similarity of procedure in the certification of both the private patient and the so-called "pauper" case. Dr. Stanford Read (London) distinguished between "insanity" and "unsoundness of mind," and deplored the stigma attached to the term "insanity." He expressed the opinion that the difficulties connected with certification would be greatly smoothed away by the education of the medical profession and the public in the law. Dr. Bedford Pierce (Leeds) urged that the voluntary treatment of patients should be facilitated in every possible way, and that recent acute cases should be admissible to temporary detention without certification. Dr. Mills agreed with Dr. Bedford Pierce, and considered that pauper cases should be allowed to be treated as voluntary boarders when indicated; while Dr. Blair (Lancaster) emphasized the fact that the onus of certification should not be upon the family physician. Dr. Hildred Carlill (London) mentioned the difficulty that often arises in stating "facts observed indicating insanity," and cited an instance. Dr. Worster-Drought (London) dealt further with the question of the refusal of treatment by certified patients, certification of those exhibiting suicidal impulses, and with the powers of the relieving officer under Section 13 of the Lunacy Act.

Thursday, July 24th.

EPILEPSY.

On the second day the proceedings in this Section were devoted to a discussion on the nature and treatment of epilepsy. Dr. J. S. Collier, in opening the discussion, stated that although the investigations of recent years had brought no great discoveries to alter fundamentally our view of the causation, nature, and treatment of epilepsy, some progress had been made towards a much wider conception of the disease, and also towards bringing into line all those conditions in which the manifestations resembled or were identical with those of the malady termed "idiopathic epilepsy." Useful work had also been done in the separation of certain clinical types of epilepsy, and also at least one valuable addition made to therapeutic measures. As regards the nature of epilepsy, Dr. Collier considered that it was not in any sense a disease of the brain, but that there was much evidence in favour of its being due to a form of metabolic disturbance. He also cited other conditions of known metabolic dyscrasia in which epileptiform convulsions occurred—such as uraemia and eclampsia—

while in his opinion infantile convulsions were epileptic in nature. Among the points in favour of a metabolic disturbance were the periodicity of the attacks, the resemblance of status epilepticus to an acute toxic process, the immunity of the epileptic from so many common diseases, the constant leucocytosis with increase at the time of the paroxysm, the diminished blood alkalinity both before and after the attack, and the presence of choline in the cerebro-spinal fluid of some epileptics. There was very little evidence in favour of an endocrine disturbance as responsible for the manifestations of epilepsy; while in his experience protein therapy did not yield any convincing results. From the irregularity of the incidence of epilepsy in brain lesions, Dr. Collier considered that it was not the lesion itself which caused the epilepsy, but that it was due to some associated condition not necessarily present with every lesion. As regards traumatic epilepsy, he had never seen a case benefited by operation. He then referred to treatment; concerning general hygienic measures, he was convinced that the less one departed from the routine of a normal healthy life, and the fewer restrictions that were made, the better for the patient. Occupation was good for every epileptic. Thyroid extract benefited those cases with a low basic metabolic index; in other cases, however, it might be harmful. The remedies for choice were bromide and luminal, and he strongly condemned the view that medicinal measures should not be used in epilepsy until all other hygienic-dietetic measures had failed.

Dr. Aldren Turner was uncertain as to all cases of epilepsy being due to a metabolic dyscrasia, although some cases might be referred to this cause, such as those which follow the exanthemata. Concerning an endocrine disturbance as a factor he was sceptical; some forms might be due to anaphylaxis, while others appeared to be purely psychogenic. Dr. Tylor Fox (Lingfield) dealt with the use of luminal in epilepsy and the importance of the patient's environment. Colony treatment was eminently satisfactory, as the epileptic saw himself as a normal member of the community in which he lived. Dr. A. McDougall (David Lewis Colony) also spoke of the benefits of colony treatment; the earlier in life the patient was admitted the better he progressed. Dr. Stanford Read considered that the psychic factor in epilepsy had not been taken sufficiently into account, and pleaded for a more detailed psychological study of those cases in which no organic lesion could be demonstrated. He related a case in which the epilepsy appeared to depend on a psychogenic cause, the patient benefiting by psychotherapy. Dr. D. N. Hardcastle regarded epilepsy as a regression to a preconscious psychological level, and discussed the various psychological factors involved. The President then expressed the opinion that the cause might eventually be found to concern the vegetative nervous system; he instanced a case of the vagotonic type which had been cured by atropine. Dr. Hildred Carlill dealt with the diagnosis and the question of marriage in epileptics, while Dr. Potts advocated the institution of psychotherapy early in life. Dr. Worster-Drought expressed surprise that Dr. Collier had seen no case of traumatic epilepsy benefit by operation; he related two cases met with in which operation had resulted in cure. He also dealt with the theory of anaphylaxis as a cause, and detailed tests he had carried out. Dr. Core and Dr. Scharff also contributed to the discussion. Dr. Collier brought a most interesting discussion to a conclusion by replying to the various speakers.

Friday, July 25th.

The proceedings on the third day began with a demonstration by Dr. F. C. Eve (Hull) of the measurement of Kernig's sign by means of a wheel goniometer. When the patient's flaccid leg was raised from the bed with the operator's hand placed just below the middle of the tibia, a stage was reached when the knee flexed spontaneously. The angle which the leg then made with the horizontal was measurable with the wheel goniometer—an apparatus consisting of a spindle carrying a small graduated wheel which was weighted so that the 90 degree mark always remained uppermost.

A discussion on the differential diagnosis and treatment of compression paraplegia was then opened by Dr. Anthony Feiling. In order to keep the discussion within reasonable limits, Dr. Feiling excluded from consideration all cases of sudden and acute lesion of the spinal cord caused by trauma or acute myelitis. After a description of the physiological disturbances and pathological changes that follow compression of the spinal cord, he classified the causes of this form of paraplegia under two main headings: (1) extrathecal lesions, and (2) intrathecal lesions. Among extrathecal lesions were the various diseases of the spine—caries, tumours arising from bone, and spondylitis—and conditions such as aortic aneurysm, parasitic cysts, and tumours arising in the perithecal tissues. The intrathecal lesions included extramedullary and intramedullary tumours and the different forms of chronic meningitis. The general signs and symptoms of compression paraplegia were also considered under two headings: (1) those due to the direct effect of the lesion on the spinal cord and nerve roots at some particular level (local symptoms), and (2) those due to interruption of the functions of the long tracts in the cord (remote symptoms). The local symptoms included pain, hyperaesthesia and later anaesthesia, while the remote symptoms were (*a*) motor—loss of voluntary power, spasticity, and alteration of reflexes; (*b*) sensory disturbances; and (*c*) autonomic system affections such as vesical and rectal disturbances, vasomotor changes, and trophic lesions. Dr. Feiling then described the particular features of the two most important forms of compression paraplegia—that resulting from Pott's disease and that due to intrathecal tumours. The changes that often occurred in the cerebro-spinal fluid—increased protein content and Froin's syndrome—were also reviewed, and reference was made to *x*-ray examination following the intrathecal injection of lipiodol by cisterna magna puncture to determine the presence of a block in the intrathecal canal. Dr. Hildred Carlill pointed out that the site of a compressing lesion of traumatic origin could often be determined by the attitude of the patient; he showed a photograph of a man with a lesion just below the sixth cervical segment, illustrating this observation. He described a case of compression paraplegia following cerebro-spinal fever, the diagnosis being confirmed by the intrathecal injection of lipiodol with *x*-ray examination and subsequently by laminectomy. He expressed the opinion that for the use of lipiodol it was not necessary to puncture the cisterna magna, as the injection could be made into the cervical or dorsal theca above the compressing lesion. Dr. Burrow emphasized the occurrence of spinal rigidity in cases of spinal cord tumour. He considered the sensory examination of the utmost importance, and advocated the use of Head's algesiometer for the purpose. Concerning lipiodol, he had seen retention of urine follow its use, and was not in favour of the substance as an aid to diagnosis. Mr. G. Jefferson dealt further with changes in the cerebro-spinal fluid. He considered that the absence or reduction of the increase in cerebro-spinal fluid pressure in the lumbar region normally present during venous compression was an aid in the diagnosis of compression paraplegia. As regards spinal caries, 80 per cent. of cases would recover after fixation treatment. The President (Dr. Grainger Stewart) also dealt with the surgical aspects of compression paraplegia, and gave a most interesting account of the symptomatology of those spinal tumours arising intrathecally from the roots of the spinal nerves. They were of considerable importance, as with treatment by operation the prognosis was so favourable. Dr. Worster-Drought referred to the frequent difficulty of differential diagnosis in many cases of lesions affecting the lower cervical region of the spinal cord, and the manner in which cerebro-spinal fluid examination was of assistance in arriving at a conclusion.

SECTION OF OPHTHALMOLOGY.

Wednesday, July 23rd.

Intracapsular Method of Cataract Extraction.

The President, Dr. Maitland Ramsay of Glasgow, expressed his appreciation of the honour done to his school and university in appointing a Glasgow man to the high office; he gave a hearty welcome to the members of the Section. In the absence of Professor Ignacio Barraquer (Barcelona)

his paper was read by the Honorary Secretary of the Section, Dr. J. D. McCulloch (Bradford). He considered the classical operation for the extraction of cataract with cystotomy a most imperfect operation; there was pressure on the eyeball, difficulty in securing complete extraction, retention of the capsule with risks of subsequent inflammatory reaction and loss of sight. Intracapsular extraction of cataract was not new; it was performed in 1745 by Daviel, and since then many methods had been exploited; most of these were defective or difficult to perform. His own method, the use of a suction pump and pneumatic cup, removed these disabilities. He had practised the operation during the last eight years, and the clinical results were much superior to those obtained in his previous work when the usual capsulectomy was performed. The operation was not difficult, but it was completely different from all other cataract operations. Mr. A. H. H. Sinclair (Edinburgh) opened the discussion by giving an account of his personal experience of extraction of cataract in the capsule. He did not follow Barraquer's method. He had devised a forceps the extremities of which were shaped like the human hands when placed, little fingers together, in making a cup of the hands. The half cup on each limb of the forceps was finished off in the most delicate fashion so that there was no possibility of pricking or cutting of the lens capsule. The degree of pressure of the approximated edges of each blade end could be adjusted by a regulating nut on the shafts of the blades. In operating, the cup ends of the forceps were applied as widely as possible to the face of the lens by depressing the blades. A grip was obtained of the capsule and some of the underlying lens matter, and by the hold thus obtained it was possible gently and gradually to detach the lens from the lens ligament and lift it bodily as a pear-shaped bag through the coloboma of the iris and so through the corneal wound. The procedure was shown recorded by a cinematograph film of an actual operation on a patient. Of 52 cases operated on by this method 16 got 6/6 vision, another 16 got 6/9. Vitreous loss, if extensive, was a very serious event, especially with normal vitreous. He had had two serious losses and seven slight losses; in the two vision was poor and might degenerate; in the seven vision was good and might be expected to remain so. He recognized that his cases were few, but their promise was good. Lieut.-Colonel Henry Smith (I.M.S.) said that Dr. Barraquer did not lay emphasis on the primary necessity in intracapsular extraction by whatever method—suction or expression or extraction—of an ample incision. That was the secret of success; without it failure was certain. Suction extraction would always fail with Morgagnian cataract; the capsule was too frail. Suction was tried first in 1906; it might be simple, it might be very complicated. Dr. Barraquer's apparatus was excessively complicated, and he doubted if the vibration set up by it had any advantage. Recently a combination of Barraquer's suction and his (Lieut.-Colonel Smith's) expression had been tried, and he thought it provided an ideal practice. Mr. M. L. Hepburn (London) said that many of the alleged disadvantages of cystotomy were largely visionary. Cystotomy remained an excellent and very safe operation. Of intracapsular operations suction was preferable to expression, but the complexity of the apparatus and relatively large size of the instruments introduced into the eye for suction was serious; worst of all, there was an undoubted increase in the losses of vitreous, which constituted the gravest danger of all. He thought Barraquer's operation was not the operation of the future. Mr. J. Gray Clegg (Manchester), Mr. Bishop Harman (London), Mr. Harrison Butler (Leamington), Mr. R. J. Coulter (Newport), Mr. A. L. Whitehead (Leeds), Mr. E. E. Maddox (Bournemouth), Mr. A. Little (Bradford), Dr. Gordon Spencer (Mesopotamia), Dr. O. G. Morgan (London), continued the discussion; almost all testified to the superior advantages of extraction with cystotomy; and Mr. H. H. Sinclair replied. Mr. A. L. Whitehead (Leeds) read a paper on paresis of the accommodation as a late sequela of encephalitis lethargica, which was discussed by Mr. Harrison Butler (Leamington). A message was sent to Professor Barraquer expressing the sympathy of the Section with him in his recent bereavement.

Thursday, July 24th.

Microscopy of the Living Eye.

At this Section the chair was taken by Mr. R. J. Coulter (Newport), vice-president. Mr. Basil Graves, British Medical Association Science Research Scholar, opened a discussion on the microscopy of the living eye. He proposed to confine his observations to the aqueous and lens. The aqueous fluid was usually thought to be optically empty, but this was not so. The fluid was relucent, and this was increased in pathological conditions. Using the ordinary nitra slit-lamp and the 1 mm. dot-aperture, the observer could see the path of the beam traversing the normal aqueous fluid. Slow movement of the beam of light up and down improved perception. He described the visibility of the path of light in the normal aqueous fluid as a homogeneous "flare." It differed from the visibility of discrete particles seen in pathological states. On occasions, when the arc slit-lamp was used, occasional isolated illuminated particles might be seen to cross the beam-track even in an eye which might be presumed to be normal; he believed such particles, when few and when unaccompanied by any increase in the visibility of the normal homogeneous flare-component, were not indicative of past or present intra-ocular trouble. Particles of an order of size and distance of separation which was below the lowest limit of resolution were due to scattering of light; but particles which were visible owed their visibility to diffraction. There was an inconstant feature of the optical section of the anterior and posterior lens cortex; a restricted portion might show an almost metallic lustre. It was best seen in many a normal senile cortex, but it might be seen in delicate form in young persons. The appearance could be varied with the angle of the optical beam; it increased with age. He thought them due to a summated specular manifestation occurring along the course of the sectional beam as the result of multiple lamination of structure; and that in this might be a recognition of presenile cataractous changes which might have some bearing on the onset of senile cataract.

Mr. Harrison Butler (Leamington) gave a most lucid and interesting account of his observations in this method of investigation of the eye, illustrated by many very beautiful projection pictures. These showed the appearance of the structures of the eye from cornea to retina when illuminated by the slit-lamp beam. Further, the altered appearances of these structures in conditions of disease were shown. The corneal picture shown demonstrated superficial keratitis, herpes ophthalmica, keratitis disciformis, central keratitis, folding of Descemet's membrane, and interstitial keratitis. The changes in the aqueous were of special importance. He believed the detection of cellular elements might be the first sign of sympathetic ophthalmitis. He had failed to see the relucence of the normal aqueous described by Mr. Basil Graves; he only saw it in disease. There had been a new revelation of lens structure both in anatomical details and in clinical conditions. He was convinced of the value of the slit-lamp and of its permanent utility.

Mr. C. B. Goulden (London), dealing mainly with the specular reflections of the media of the normal eye, showed that in disease these reflections were increased both in intensity and in number. Mr. O. G. Morgan (London) described the appearances seen in a series of cases of cyclitis involving keratitis punctata and vitreous changes. Mr. Humphrey Neame (London) discussed posterior stellate or rosette opacity of the lens following trauma, in which the opacity disappeared completely in a few weeks.

Mr. Basil Graves, in reply, thought that at present the slit-lamp was of great value in clinical examination, save only in vitreous haze, in which the ophthalmoscope was the better. Mr. Harrison Butler agreed that gross vitreous opacities were invisible with the slit-lamp. Mr. J. A. Wilson (Glasgow) read a paper on sympathetic ophthalmia and allied conditions. In the afternoon demonstrations of cases and of the slit-lamp were given at the Royal Eye and Ear Hospital, also of operations for the intracapsular extraction of cataract.

SECTION OF PUBLIC MEDICINE AND INDUSTRIAL DISEASES.

Wednesday, July 23rd.

On July 23rd the Public Health Section met in one of the large rooms in the Bradford School of Art. There were some thirty members present at the beginning, but the number rapidly increased to over fifty—including several ladies—by the time the preliminary proceedings were over. The President of the Section (Dr. Herbert Jones, Hereford) in his opening remarks called attention to the fact that this was the first Annual Meeting at which the public health service, as represented by the Society of Medical Officers of Health, had been formally admitted to the Representative Meeting and to the Council, and that there was a reciprocal representation of the British Medical Association on the Council of the Society. It was therefore apposite that the subject for the first discussion should be that of the role of the general practitioner in preventive medicine. He called to mind that in the early days of public health the first medical officers of health were taken from the ranks of general practice, and he mentioned the names of such pioneers as Franklin Parsons, Bruce Low, Thursfield of Shropshire, Kelly of Kent, George Wilson of Warwickshire, George Turner of Hertfordshire, Woodforde of Berkshire (to which list, had not modesty forbidden, he might well have added his own). The success with which these men had laid the foundations of public health was an open book, and the purpose of the discussion now to be opened was to bring to the forefront practical suggestions for the complete and intelligent co-operation of the general medical practitioner and the medical officer of health, for the ultimate aim of both was the welfare of the whole community. Dr. Peter Macdonald (York) then read his paper dealing with the activities of the general practitioner which tended to the prevention of disease, with the directions in which he failed to take full advantage of the opportunities that present themselves, and with the various ways in which he might be more closely linked up with the departments of public health. In the latter department Dr. Macdonald was strongly of the opinion that a part-time service was the most advantageous to the community in the end. The discussion was vigorously taken up by some fourteen participants, amongst whom were several general practitioners. The chief points which emerged were to the effect that the general practitioner's sympathies were early divorced from public health on account of the faulty and fragmentary way in which the subject was presented to him in the course of his medical studies, while the M.O.H. and his department too often stood aloof from the general practitioner. Lieut.-Colonel F. E. Fremantle, M.P., who spoke at some length, laid great stress on the point that neither the one nor the other, in honour to his profession, could adhere absolutely to "the bare contract" of his office, and some machinery ought to be devised to facilitate interchange of ideas and ideals between the two branches of medicine. Dr. H. B. Brackenbury claimed that the general practitioner was, in fact, doing a great deal of preventive work, but as this was not done under the auspices of a municipality it was not credited as such. As an outcome of the discussion a formal resolution was passed unanimously, requesting the Council to inquire as to the best means for effecting co-operation between the profession at large and the medical members of Parliament. Next, a short paper was read by Dr. J. Hall-Edwards upon public health authorities and the cancer problem, in which he ventured the opinion that sooner or later it would be necessary to make cancer notifiable. From inquiry made by the Birmingham Cancer Subcommittee it was clear that our hospitals were not fully equipped for applying all the methods which offered some measure of success, and that residential treatment for inoperable cases was badly needed. He believed much good could be done by propaganda in bringing about an earlier recognition of the disease, and in this matter nurses and welfare workers could be of great assistance. A brief discussion followed, and then Dr. Peter Macdonald formally replied to the comments upon his paper, whereupon the Section adjourned for the day.

Thursday, July 24th.

The second day's proceedings opened auspiciously with an attendance of about seventy. Dr. J. Boyd Orr (Rowett Institute, Aberdeen), in his paper on recent advances in our knowledge of nutrition, directed attention to the importance of mineral constituents in diet, remarking that the "calorie value" was a very imperfect test of the efficiency of a food. Modern methods of preserving, preparing, and cooking food deprived it of much of its mineral value, and these minerals were required not only for skeletal structure, but were necessary for the proper functioning of the soft tissues, glands, and secretions. A physiological balance of mineral solutions in the body was necessary for the maintenance of health, and many diseases were due to mineral deficiency, for even a slight divergence caused a considerable upset of the normal functions. Calcium and phosphorus, they knew, were essential for the prevention of rickets, but sodium and potassium were also necessary, while an excess of the latter led to excessive excretion of the former. Iodine in minute quantities also played an important part. Cod-liver oil corrected in a remarkable way an ill balanced diet, but it failed if the balance was too far out. Sunlight and ultra-violet rays had a similar effect. The application of scientific principles of dietary had had a marked effect in stock breeding, and they could be applied with equal effect to the human species. In the absence of Professor E. Mellanby, Dr. Robert Hutchison followed up the subject by dealing with the influence of diet in the first few years of life on the constitution of the adult. He maintained that at an early age the defects due to improper diet could be eradicated by improved feeding afterwards, but if the dietary errors occurred at or a little after the age of puberty the results were much more serious and lasting. Dr. J. S. Manson, in his paper on common errors of diet in an urban population, caused considerable amusement by his reference to "angel food," which is the popular name for fancy cakes, jellies, and suchlike innutritious dainties. The discussion which followed centred chiefly upon the necessity for instructing the public so that they should not be misled by specious advertisement and dainty appearance in their judgement of food values. As a practical outcome of the discussion a resolution was carried unanimously, asking the Council of the British Medical Association to investigate, in conjunction with the Society of Medical Officers of Health, the dietary of the people and to set up a standing food committee for advisory purposes.

The second half of the morning was devoted to industrial welfare, and it was gratifying to note that a considerable number of representatives and welfare workers from the large manufacturing firms in the neighbourhood entered the meeting at this juncture and took an active part in the subsequent discussion. The President (Dr. Herbert Jones), in welcoming these visitors, reminded them that industrial welfare was no modern innovation, for the first Josiah Wedgwood carried it out at the end of the eighteenth century by building houses and providing an open-air swimming bath for his workers. Dr. W. F. Dearden then read his paper dealing with the different systems and practices of industrial welfare in this country and in America, and was followed by Dr. David McKail, who dealt with the pros and cons of the welfare movement as applied to factories. A keen discussion followed, in which the advantages of taking an active and practical interest in the health and well-being of the workers, both from a commercial and from a health point of view, was warmly advocated, with the warning note that such work could only be successful if the workers' sympathy and support were first gained.

SECTION OF DISEASES OF CHILDREN.

Wednesday, July 23rd.

MENTAL DEFICIENCY.

THE first discussion in this Section was on the prevention of mental deficiency. Dr. A. F. Tredgold confined his opening remarks to mental deficiency as defined by the Act of 1913. He said that mental deficiency fell into two

groups—primary and secondary. Primary amentia was essentially a diminished developmental potentiality of the cerebral neuroblasts; it was germinal in origin, and it was inherited or transmissible. He did not consider the mode of transmission obeyed the Mendelian laws, but rather that it consisted in a form of "germ devitalization"; this might be the result of various toxic factors. This would manifest itself in the offspring by defective function, as seen in hysteria, epilepsy, or mental instability, or by defective durability, as seen in mental defect. He thus considered that it was not mental defect which was inherited or transmitted, but the impairment of developmental potentiality of germ neuronic determinants—that is, neuropathic diathesis. For the prevention of mental deficiency he thought segregation much better than sterilization, which gave rise to a sense of false security, and would loose on the public these defectives, and there would be an increase of venereal disease as the result. Whichever view was adopted, however, it was clear that the number of defectives would be only slightly lessened by this means. To produce any appreciable preventive results all those who suffered from the neuropathic diathesis would have to be sterilized, and this was not only impracticable but impossible. Birth control would certainly not prevent mental deficiency; on the contrary, it would probably increase the proportion of these persons, as those who would practise it were the prudent and the desirable classes, while those who would not were the neuropaths. Secondary amentia differed from the primary in that the germ plasm was sound; there was no morbid heredity; it was produced by adverse factors of environment acting directly upon the developing embryo or the young child. By better obstetrics the birth injury might be done away with, and in those cases where haemorrhage had taken place it might be set right by operation. Other factors causing secondary amentia were infections, such as seen in encephalitis lethargica, meningitis, and syphilis.

Dr. Eric Pritchard agreed that the pessimism of Mendelism had pervaded the whole medical profession as regards mental deficiency. He considered that by the removal of the toxins or infections depressing the germ plasm it would return to normal. Faulty feeding—vitamin or chemical lack—might be a factor in the production of mental deficiency. Dr. Robert Hutchison said that from a study of 150 cases of mental deficiency in the upper classes in his private practice he concluded that there was no evidence that the heredity in such children was more neuropathic than that of the average normal child, nor had he been able to trace any ill health in the mother to account for the condition. It was absurd to say that mentally deficient children came of neurotic stock. All who were worth anything came of neurotic stock. He considered primary amentia, therefore, to arise as a fortuitous unfavourable variation, and that each generation would continue to produce its crop of such children from the ordinary average stock, just as it produced its crop of men of exceptional ability. Dr. W. A. Potts thought that heredity was a most important factor. This was borne out by the fact that the mating of two mentally defective parents produced all mentally defective children. With better obstetrics, better hygiene, and segregation, mental deficiency might to some extent be prevented. Dr. R. Langdon-Down thought that Goddard's work on the Mendelian theory of the transmission of mental deficiency was not proved. He thought that segregation was better than sterilization. Dr. R. M. Marshall considered that on the whole, in our present state of knowledge, there was very little hope of further preventing mental deficiency. Dr. Turner thought that eugenics was of the utmost importance. Dr. Crofton maintained that infections of the mother were of great importance to the foetus, especially during the first six weeks of intrauterine life. Dr. Naish said that the diagnosis of birth injury was extremely difficult, and therefore the chances of helping the infant by operation were remote. Dr. Paget Lapage considered infection might produce the neuropathic diathesis, but that the question of "stock" was most important. Dr. Brackenbury thought it possible that both the defective germ plasm theory and the Mendelian principles of inheritance might be operating at the same time. The President (Dr. Leonard Findlay) said that such a discussion was of great importance, as lay people considered that the doctors knew how to prevent mental defect but would not act. This discussion would therefore be an answer to eugenists. He wondered whether the special schools and institutions, with special doctors and nurses, which were provided by the ratepayers of the country, were really worth while, and whether any mentally defective child was ever improved sufficiently to earn its own living.

Thursday, July 24th.

PULMONARY TUBERCULOSIS IN CHILDHOOD.

Dr. Clive Riviere, opening this discussion, confined his remarks to the period between the ages of 6 and 15 years. He quoted the Registrar-General's figures, which showed an extremely small mortality in this period from pulmonary tuberculosis. This must mean that either infection of the child during this period was rare or his immunity to infection was high. He then quoted figures on the tuberculin skin tests to show that observers such as McNeil in Edinburgh and von Pirquet in Vienna had found that during this period of life more than half the children gave a positive test. In a large series of necropsies the incidence of pulmonary tuberculosis was extremely high. These figures indicated that tuberculous infection of the lungs or bronchial glands was extremely common in children of school age. The clinical picture of these children was next described. Right paravertebral dullness was as characteristic of such cases as crepitations at the apex were characteristic of adult pulmonary tuberculosis. Dr. D. Campbell Suttie of Glasgow read a paper on the *x*-ray diagnosis and findings in pulmonary tuberculosis in children, based on the investigations of patients who had been diagnosed by *x* rays and physical signs, and in whose sputum tubercle bacilli had been found. At necropsy the lesions of tuberculosis had been demonstrated. He believed that the *x* rays would demonstrate very minute lesions before they were advanced enough to give rise to physical signs. There were four types of pulmonary tuberculosis in children: miliary, bronchopneumonic, hilum tuberculosis, and the adult apical type. Tuberculous glands were not shown by *x* rays until they were either caseous or calcareous. Dr. Paget Lapage (Manchester) said in the diagnosis of pulmonary tuberculosis in childhood symptoms of the "toxic state" were first shown in the appearance of the child and its general loss of tone, flat-feet, scoliosis, irritable heart, and generally impaired functions. The physical signs he relied on most for diagnosis were the area of right paravertebral dullness, cog-wheel breathing, and d'Espine's sign. *X* rays were difficult to interpret and not diagnostic in slight cases. Dr. C. W. Vining (Leeds) could not agree that localized tuberculous glands would cause such gross symptoms of malnutrition and toxic change as had been claimed. Tuberculous lesions which produced such a picture were so extensive that there was no question of their existence. Some clinicians overlooked the fact that chronic dyspepsia, constipation, or underfeeding might give rise to a picture very like the one under discussion. Dr. Charles McNeil (Edinburgh) had not been able to find any physical sign of use in diagnosing these cases with any reasonable certainty. He placed great value on a negative cutaneous test with tuberculin, but none on a positive reaction. Dr. F. G. Chandler (London) thought the seeds of adult tuberculosis were sown in childhood, and especially in the bronchial glands. Dr. Crofton (Dublin) considered the subcutaneous tuberculin test infallible, not only for tuberculous infection, but for its activity also. Dr. John Watt (Derby) had found the sputum positive in the majority of his cases. He considered that hilum tuberculosis of childhood developed later into the adult type. Dr. Eric Pritchard (London) doubted whether the ordinary mortal could percuss out this small area of paravertebral dullness, but he believed that the subcutaneous tuberculin test was most efficient in diagnosing an active or latent tuberculous infection. Dr. Prest thought that preventive methods might succeed if patients could be discovered early, prolonged treatment given, and the stigma removed from sanatoriums by calling them chest hospitals. The President (Dr. L. Findlay) admitted that there was much tuberculosis within these age limits, but was there much pulmonary tuber-

culosis? He was unable to diagnose pulmonary tuberculosis until physical signs appeared, and the *x* ray supported the diagnosis. He thought mediastinal tuberculosis was common, but its diagnosis was beyond him: he could not understand the mechanism or pathology of paravertebral dullness. If children with a positive skin tuberculin reaction were to be considered tuberculous as they were in Toronto or Vienna, 90 per cent. of the children in this country would be labelled tuberculous. In his opinion all milk was tuberculous and should therefore be pasteurized or sterilized.

SECTION OF LARYNGOLOGY AND OTOLOGY.

Wednesday, July 23rd.

CHRONIC TONSILLITIS.

THE proceedings of the Section were opened by the President (Dr. W. Jobson Horne), who said that the subjects set down for discussion, although perhaps well worn, were of daily importance in practice. Dr. A. Brown Kelly opened a discussion on chronic tonsillitis. He pointed out that an enlarged tonsil, although apparently healthy on probing and squeezing, if examined microscopically after enucleation would be found to be diseased; from a bacteriological standpoint every tonsil was a diseased tonsil, and it became necessary to base an opinion mainly on the clinical history, concomitant signs, and local aspect. It was sometimes asked whether operation might not abrogate or destroy some important function by the deprivation of which the patient would suffer. This was conceivable in the young child, but it should suffice to remember that the tonsil was made up of numerous nodules of lymphadenoid tissue precisely similar to those found scattered singly or in groups beneath the mucous membrane of the pharynx. There need be no hesitation in removing enlarged or diseased tonsils from a child of 2 years, or even of 18 months, if healthy and vigorous; in a younger child it was advisable to operate on the adenoids first and leave the tonsils until later. According to the view generally held, enucleation of tonsils lessened the liability to contagious diseases, and when such diseases were contracted the attacks were milder in those who had undergone operation. The detection of a septic focus, or good grounds for suspecting the presence of one, in a tonsil was manifestly a matter of importance, but in many cases it was difficult or impossible by mere inspection to say whether a tonsil was healthy or diseased. The absence of signs by no means excluded the presence of a small chronic abscess close to the capsule or of a collection of decomposing debris at the bottom of a long crypt. Several points had to be noted: Was a focus of infection present in the tonsil? Was the special focus for which search was being made in the tonsil? Were foci of infection present elsewhere? If the tonsil was clinically healthy, had caused little or no trouble in the past, and there was no apparent relation between the tonsil and the systemic disease under investigation, tonsillectomy should not be recommended. In all cases of systemic disease suspected of being due to a septic focus in the tonsils these general principles should be borne in mind before recommending tonsillectomy. Mr. Scott Ridout asked the meeting to formulate a definite line to guide the practitioner in recommending operative treatment in those cases in childhood which might be described as the borderline type. Dr. J. S. Fraser pointed out that in order to see the tonsil properly it was necessary to get the patient to gag. Mr. E. D. D. Davis gave a summary of the numerous diseases and symptoms for which he had been asked to enucleate the tonsils. Mr. Syme, Mr. O'Malley, Mr. Pavey Smith, Mr. Bell Tawse, Mr. Holt Diggle, Dr. Jobson, and the President also took part in the discussion. Resolutions were unanimously passed to the effect that tonsillectomy by enucleation was the only effective operation; that the operation should not be conducted as a minor operation but as one of the lesser major class of operations; and that the operation should only be undertaken after expert opinion had been given.

Dr. Neil Maclay read a paper on nasal neuroses; he gave an account of physiological experiments which had been carried out under his supervision, and correlated them with his clinical experience. The paper was discussed by Dr. Brown Kelly, Mr. O'Malley, Mr. Kelson, and Mr. Dunlop.

Dr. William Hill read a paper on radium therapy in cancer of the oesophagus. He had dealt with seventy-seven cases of malignant stricture of the oesophagus by radium, and in about one-third there was remarkable improvement, in another one-third substantial improvement, and in the remainder the improvement was either very slight and fleeting or there was none. Three patients had died within a few days of the application. The paper was discussed by Mr. E. D. D. Davis and Mr. Syme.

In the afternoon there was a demonstration of cases and specimens at the Royal Eye and Ear Hospital. Mr. Appleyard showed six cases, including a facio-hypoglossal anastomosis and a pneumatocele of the mastoid process following an operation for acute mastoiditis. Mr. Donald Watson showed eight cases, including an osteoma of the frontal sinus, a xanthoma multiforme affecting the mouth and larynx, and a mucocele of the larynx extending into the neck. Mr. Watson demonstrated a new mastoid retractor, and Mr. H. S. Souttar demonstrated his new oesophagoscope.

Thursday, July 24th.

ACUTE OTITIS.

The second day of the proceedings of the Section, with Dr. Jobson Horne in the chair, began with a discussion on the importance of early treatment of acute otitis, which was opened by Mr. J. F. O'Malley. Mr. O'Malley said that the term "acute otitis" might be appropriately applied to any acute inflammatory or suppurative process arising in any portion of the organs of hearing, either external, middle, or internal ear, but was usually limited to affections of the external and middle ear only. An acute inflammatory process in such a small air chamber as the middle ear, clothed as it was with a vascular lining and containing a delicately jointed bony mechanism for the conduction of sound, constituted a dangerous menace to the function of hearing. Mr. O'Malley summarized the possible complications of acute otitis to emphasize the importance of the subject. He classified acute otitis media under four headings: (1) deafness and pain, with hyperaemia of the drum; (2) deafness, pain, hyperaemia, and bulging of the drum; (3) acute middle-ear suppuration; (4) the second and third, *plus* suspected mastoid antrum infection. Otologists had to make up their minds whether treatment should be medicinal, and if so for how long; and if surgical, how soon and what form it should take. Dr. Peter Macdonald and Sir Malcolm Watson emphasized the importance of the subject for the general practitioner. Dr. J. S. Fraser pointed out the difficulty sometimes of diagnosing a furunculosis from mastoiditis; he did a paracentesis if the patient had had a bad night and the drum was beginning to bulge, but not at the hyperaemic stage. Mr. Neil Maclay thought that early paracentesis was most valuable. Mr. Holt Diggle believed that if there was pain, even without bulging, for forty-eight hours, paracentesis should be done. Mr. Tawse said that paracentesis was one of the rarest operations which he did, but he strongly believed in early opening of the mastoid antrum. Dr. William Hill, Mr. Kelson, Dr. Wallace (Uppingham), Mr. Dunlop, Mr. Donald Watson, Mr. Ritchie Rodger, and the President also took part in the discussion.

Dr. J. S. Fraser read a paper on cerebellar abscess, giving statistics of cases seen at the Edinburgh Royal Infirmary. From 1907 to 1923, 2,000 cases of acute purulent otitis media were seen; among these cases 609 came to mastoid operation; one patient had cerebellar abscess, and three had abscess of the temporal lobe. During the same period, 6,492 cases of chronic middle-ear suppuration were seen; 1,305 radical or modified radical mastoid operations were performed; 26 cases had cerebellar abscess, and 27 abscess of the temporal lobe. From 1907 to 1923 Dr. Fraser had performed 140 Schwartze operations and 725 radical or modified radical mastoid operations, and had dealt with 8 cerebellar and 10 temporal lobe abscesses; of the 8 cerebellar cases only 1 followed acute middle-ear suppuration, and 7 resulted from chronic purulent otitis media; 4 of the 8 cases recovered and 4 died. The paper was discussed by Mr. Kelson, Mr. Ritchie Rodger, Mr. Scott Ridout, and Mr. Tawse.

Mr. W. H. Kelson read a paper on some osseous growths of the nasal and adjacent bones. These growths, he said, were rare, but were nevertheless of considerable interest, especially to the rhinologist. He gave a survey of the literature on the subject, and showed some interesting specimens and photographs. The paper was discussed by Mr. Syme, Dr. William Hill, Mr. O'Malley, Dr. J. S. Fraser, Mr. Donald Watson, and the President.

Mr. W. S. Syme read a paper entitled "Definite diagnosis in affections of the ear, nose, and throat." He said that the ear was never thoroughly examined until the nose and throat had been examined as well, and he told his students that of all methods of examination posterior rhinoscopy was the most important. It was more than a coincidence that many cases of recurring furunculosis, otitis externa, and eczema of the meatus suffered also from nasal suppuration or from septic tonsils or dental disease. He had sometimes completely relieved very severe pain in the ear by removal of the hypertrophied posterior end of the inferior turbinal. Again, of all forms of chronic laryngitis probably none was so intractable as that caused by the inhalation of septic material from atrophic rhinitis.

SECTION OF DERMATOLOGY.

Wednesday, July 23rd.

Skin Cancer.

Dr. Henry MacCormac (London) in his opening paper criticized the prevailing view that there were two distinct kinds of cancer of the skin—(1) rodent ulcer and (2) squamous-celled epithelioma. He enumerated the following points of differentiation between the two types of skin cancer, some of which had been insisted upon by Jacob, the Dublin surgeon who originally described rodent ulcer, and some by his successors: (*a*) Rodent ulcer was usually confined to the face. (*b*) Rodent ulcer began at an earlier age than other forms of cancer. (*c*) In rodent ulcer glandular and visceral metastases did not occur. Dr. MacCormac showed that to each of these generalizations there were important exceptions, and as regards the third, on which most weight was usually placed, he quoted three cases in which the patient died from metastases. On the other hand, he had also collected a series of twenty-two cases of squamous-celled epithelioma of the skin in which the growth had been present a considerable time, which showed that glandular metastasis was by no means common in prickle-celled cancer of the skin. It also appeared that metastasis was rare in the cutaneous cancer of paraffin workers. Approaching the problem from another angle, the study of the histology of rodent ulcer had revealed no definite dividing line between rodent ulcer and prickle-celled cancer; in many cases basal- and prickle-celled types of growth were found side by side and merging into one another. Darier was evidently of much the same opinion, for he divided all skin cancers into (*a*) a spino-cellular group, (*b*) a baso-cellular group or rodent ulcer, and (*c*) metatypic or spino-baso-cellular epitheliomata; it also appeared that the prickle cells were not infrequently found in rodent ulcer. Dr. MacCormac was of opinion that syphilis was not a predisposing cause of skin cancer, although it might be of cancer of the mucous membranes. Finally, he said that primary epithelioma might arise in three situations—the skin; the semimucous membranes, such as the lip; and the true mucous membranes, as the tongue. On a semimucous membrane the degree of malignancy was greater than on the skin, and on the true mucous membranes higher still. In fact, the clinical aspects of epithelioma depended more upon the anatomical position than on the histological type of the growth.

Dr. Savatard (Manchester) divided primary cancer of the skin into (1) basal-celled; (2) squamous-celled; and (3) mixed. He said that squamous-celled carcinoma might arise either from normal skin or from preceding dermatoses, which might be either definitely precancerous or not. It might be diagnosed clinically from basal-celled by its rapid growth, the raised button-like character of the lesions, and their translucency. He laid no stress on glandular metastasis, but great stress on the rate of growth, which was fifty-two times faster in squamous than in basal celled cancer. He had known it confused with sebaceous cysts, boils, and molluscum contagiosum, but such confusion should not arise with ordinary skill and care. Dr. Savatard showed a large number of slides illustrating the clinical characteristics of squamous- and basal-celled carcinoma. He drew attention to the early age at which it might arise, and agreed with Dr. MacCormac that the malignancy of the squamous type on the skin had been exaggerated. He had had two cases of old-standing rodent ulcer which suddenly began to grow rapidly when the patient became infected with syphilis. He protested against the term "rodent ulcer," for, said he, it was not an ulcer and was not rodent in character.

The President (Dr. J. M. H. MacLeod), in opening the discussion, said that the classification of skin cancer into basal and squamous forms was convenient and should not be abandoned. In his experience, when the infiltration consisted of plasma cells there was less malignancy than when a more acutely inflammatory type of infiltration was present. Sir Norman Walker mentioned the difficulty of reforming an old, if inaccurate, terminology. He was content to use the term "rodent ulcer" as a name, although warning his pupils that it was not an ulcer and did not corrode. He was inclined to think that rodent ulcer arose somewhat earlier than squamous epithelioma, and his statistics showed, contrary to his impression, that rodent ulcer was just as common in women as men. He thought it extremely difficult to determine histologically the exact tissue origin of a growth, and he said also that some cases of rodent ulcer which developed metastasis might escape the notice of the dermatologist because they affected the internal organs and never came back to him but went to the physician or surgeon. Finally, he uttered a note of warning about the treatment of lupus by *x* rays. In 1902, of sixty-two cases of lupus treated thus in the Edinburgh Royal Infirmary, many of which apparently did very well, no less than twenty-three had died since of carcinoma. Dr. Dore referred to four cases, clinically diagnosed as rodent ulcer, but which were resistant to radium and turned out on histological examination to be squamous carcinoma. Dr. Goodwin Tomkinson (Glasgow) mentioned a case of multiple malignant disease of the skin. Dr. Hallam (Sheffield) advised removal of glands at the same time as the primary growth in cases of primary squamous-celled carcinoma. Dr. Allan C. Parsons read a paper on bakers' dermatitis. From inquiries made in various districts it appeared probable that not more than 50 per cent. of cases of dermatitis amongst bakers were true cases of "bakers' dermatitis." These occurred in bakeries where the dough was mixed by hand, and in nearly half the total cases the patients had been working with sugar in some degree. There was no evidence that the inferior quality of flour or the refining processes of milling were responsible. Rarely there was a condition of sensitization to flour protein which might follow a long period of immunity.

Thursday, July 24th.

Radio-therapeutics in Dermatology.

Dr. Sequeira (London), in opening the discussion, said that *x*-ray therapy had inaugurated a new era in dermatological therapeutics. He contrasted the blind and dangerous procedure of the early years with the more advanced methods now employed to measure dosage, to screen off undesirable rays, and to afford protection to patient and operator. He confined his remarks almost entirely to superficial radiotherapy, with which the Section was alone concerned. Over a quarter of a million doses of *x* rays had been given in his department at the London Hospital, all controlled by the Sabouraud pastille, without accident. In dermatology *x* rays might be used for the following purposes: (1) Relief of irritation—that is, in pruritus of the anus and vulva and in lichenification. (2) In psoriasis with limited lesions only. (3) For keratoses, especially plantar warts; other warts he treated by preference with carbon dioxide snow. (4) The ulcerative form of tuberculosis of the skin was greatly benefited by

small doses at intervals of three or four weeks, though nodules were usually left to be dealt with by other agencies; the dry form of lupus vulgaris should never be treated with *x* rays. (5) Mycosis fungoides; nothing was more remarkable than the way in which this disease reacted to *x* rays, but unfortunately the benefit was only temporary. (6) Multiple idiopathic sarcoma of Kaposi. (7) Keloid. (8) Carcinoma of the skin, especially rodent ulcer; squamous-celled carcinoma did not react. (9) Ringworm; 7,143 cases had been treated at the London Hospital in fourteen years with only four cases in which there had been imperfect growth of hair. (10) Acne vulgaris; useful in cases with greasy skin and comedones. Dr. Sequeira then went on to speak of phototherapy, and said that the Finsen light was the ideal treatment of dry lupus, but that it was preferable to combine it with general arc-light-baths, whereby the percentage of cured cases of lupus could be raised from about 60 to 90 per cent.

Dr. Dore (London) referred to the difficulty of using and installing a Finsen apparatus in private, and was glad that the Kromayer lamp was useful. He had had a considerable experience of phototherapy since the early days, and had used many forms of lamp in many different dermatoses. He had come to the conclusion that its field was far more restricted than that of *x* rays, which he preferred in general to radium. He had found that light rays were either bactericidal but non-penetrating or penetrating but non-bactericidal. He thought that *x* rays in small doses had a stimulating effect, hence their utility in ulcerative lupus. All now agreed as to the danger of *x*-raying dry lupus. He thought that the inhibitory and destructive effect of the rays was especially great on young and rapidly growing cells of embryonic type, hence their action on new growth. The epilatory action of the rays was useful in ringworm and sycosis, but he desired to warn all against their use in hypertrichosis, in which terrible sequelae had resulted from their employment. The President referred to the employment of pastilles for measurement of dosage, and considered that the direct method of measurement, if perfected, would be better. He had found the behaviour of the Coolidge tube very uniform and regular. He thought that the treatment of ringworm required much skill, and he could not boast results equal to those of Dr. Sequeira. Since he often had to have babies of 18 months and mentally defective children *x*-rayed for ringworm of the scalp, he had devised a webbing apparatus for keeping them still. He thought that in leprosy good might result from destroying nodules with very small doses, but not more than half a pastille. He had not had wonderful results from the new vegetable oils and their derivatives and thought the best results were obtained in leprosy from treatment on sanatorium lines, at all events in this country. He agreed in discouraging the treatment of hypertrichosis by *x* rays.

Sir Norman Walker (Edinburgh) had had no accidents in ringworm cases for many years, although in consultation he had been shown some deplorable results. In ringworm of the beard he found *x* rays unnecessary, because the hairs of the beard were tough enough to be epilated by hand. Discussing phototherapy, he said that the new generalized light treatment had caused wonderful improvement in lupus. He had been especially struck by the improvement in the general health and spirits of the patients: they did not pigment so deeply as those of Dr. Sequeira, but he got just as good results. He thought the lack of pigmentation was due to difference in race and colour. He had been exceedingly disappointed with the results of phototherapy in psoriasis, although Dr. Nevins Hyde of Chicago had claimed good results in patients exposed in a glass-roofed sun bath. He also drew attention to the dangers of *x* rays in lupus and hypertrichosis, and thought it improbable that light would benefit leprosy, for the disease was commonest in countries where the sun was strong and clothing scanty. Dr. Hallam (Sheffield) deplored the fact that the prolonged treatment of lupus by *x* rays was still being continued by many, and hoped that the condemnation of it uttered by all present would have some result. He called attention to the benefit of small doses in chronic eczema. Dr. Mitchell (Bradford) had entirely abandoned the *x*-ray treatment of lupus and relied on curetting and diathermy, which he also used for rodent ulcers. Dr. Howard Humphris (London), unlike Dr. Dore, considered that ultra-violet radiation had a wider field than *x* rays, and that it was more scientific to use an artificial source of ultra-violet light than sunlight, which, in this country, varied from day to day. In some cases he combined *x* rays with ultra-violet treatment. Dr. Goodwin Tomkinson (Glasgow) had first treated ringworm in Sabouraud's clinic in 1905. He had had good results in Glasgow for many years, with only two slight accidents, and ascribed his good fortune to the fact that he never took the pastille right up to Tint B. Dr. Haldin Davis (London) had treated about 700 cases of ringworm with his own hands, with only three cases in which there had been slight thinness of the hair over a small area, and he agreed with Dr. Goodwin Tomkinson that the pastille should never be turned to more than the four-fifths B tint on the Lovibond tintometer. Dr. H. C. Semon (London) referred to the treatment of psoriasis by irradiation of the thymus gland. The proper dose was one-third of a pastille and a 2 mm. filter. Dr. Hall-Edwards (Birmingham) said that in the old days there were far more terrible cases of lupus than at the present time, and he thought they had, notwithstanding the remarks of previous speakers, often done good to them.

SECTION OF ORTHOPAEDICS.

Friday, July 25th.

Hallux Valgus.

Sir Robert Jones (Liverpool) drew attention to the mobility of metatarsus and toes in young children. In bare-footed races this mobility continued throughout life and precluded the development of hallux valgus, a deformity produced by the limitation of movement due to wearing boots, particularly of incorrect shape. Distinction must be drawn between the patient who complained only of the appearance of the deformity and the one who complained of pain and disability. Operative treatment should be limited to those patients who were willing to wear appropriate shoes subsequently, for if the patient resumed the use of pointed shoes the deformity would recur. To remedy the appearance only of the deformity a wedge osteotomy on the inner side of the neck of the metatarsus was adequate. In cases with osteoarthritic change and pain, adjusting the shoes to relieve pressure on the joint would often relieve the pain, but without modifying the deformity. No operation should be performed on bone or joint in the presence of an inflamed bursa; if the bursa alone was the cause of pain it should be removed and the underlying osteophyte with it. In severe cases in the young and athletic a careful wedge operation was advisable, when possible, but with older people, with advanced arthritic change, free removal of bone was indicated.

The President (Mr. R. C. Elmslie) emphasized the importance of the cramping of the foot by the boot, and the need of education in the use of the small muscles. Mr. Laming Evans drew attention to focal infection; if this were present in the teeth, for example, it would prejudice the prospect of restoring mobility after the operation. Mr. N. Dunn (Birmingham) remarked that the source of pain was traceable in most cases to some condition associated with the deformity, rather than to the deformity itself. Removal of the sesamoid bones was essential when they were involved in arthritic changes. Mr. P. B. Roth did not agree that the normal civilized toe was straight, and considered that stockings and socks might be important causes of hallux valgus. Some cases were due to direct injury, and others were hereditary. Mr. Bristow urged that the sesamoid bones should be preserved whenever possible. Dr. Holmes (Harrogate) referred to the difficulty of getting bootmakers to make boots sufficiently broad without making them unnecessarily conspicuous. Mr. Daw (Leeds) and Mr. McCrae Aitken (London) also took part in the discussion. In the afternoon a clinical demonstration was held in Mr. Basil Hall's nursing home, cases being shown by Mr. S. W. Daw (Leeds) and Mr. F. W. Goyder. Dr. Fernandez (Leeds) demonstrated his non-inflammable celluloid splints

Reports of Societies.

GYNAECOLOGY.

At a meeting of the Edinburgh Obstetrical Society held on July 16th, with the President, Professor B. P. Watson, in the chair, Professor James Miller read a communication on a case of malignant hydatidiform mole with pulmonary metastasis. Professor Miller discussed in the first instance the developmental origin of the trophoblast resulting in the formation of the chorionic villus with its two covering layers derived from foetal epiblast and its connective tissue core formed from mesoblast. He then illustrated the common type of hydatidiform mole, comparing it with the normal trophoblast and also with cases of chorio-epithelioma in the female and in the male. Subsequently he demonstrated specimens from a case of malignant hydatidiform mole which came to necropsy, and which showed fully developed metastatic villi with covering epithelium and connective tissue cores in the lungs as well as in the primary growth. He drew attention to the rarity of such cases, only one previous case of this kind being described in the literature. The importance of such a case was the light which it threw upon the nature and classification of this group of tumours. Composed as they were or might be of cells derived from two different layers of the embryo, they clearly belonged to the category of the teratomas. The tumour unit was the villus or an approximation thereto, thus warranting the use of the term "villoma." On this basis the following grouping was suggested: Teratomas to be divided into (1) embryomas, (2) chorionas, these latter including (*a*) chorio-villoma simplex (the simple hydatidiform mole), (*b*) chorio-villoma malignum (the malignant mole with or without metastasis), (*c*) chorio-epithelioma, the common type without villus formation. Ewing had introduced the term "chorio-adenoma" for the type of condition illustrated. Professor Miller thought this scarcely a happy term. Certainly the growth was composed of epithelium and connective tissue. But the connective tissue of the chorio-villoma, in contrast to the stroma of all the other types of adenoma, was formed by the tumour itself and was not merely a reaction of the host. Moreover, the epithelium covered the masses of stroma—that is, there was no acinus formed. He claimed that a case of this kind settled once and for all the vexed question of the nature of hydatidiform mole—that is, whether it was a neoplasm or a degeneration. It was, or at any rate might be, of neoplastic origin. The relationship of this group of tumours to cystic disease of the ovaries was also discussed. The case cited showed complete cystic disease of both ovaries. Here was a suggestion as to the possible cause of this type of growth from the absence of normal corpus luteum.

Dr. Haig Ferguson read a short paper, illustrated with lantern views, on a case of early chorion-epithelioma.

The patient, a married woman aged 39, had had four children, the last being born seven years ago. She was admitted to the Royal Infirmary with the history that a hydatid mole had been expelled the previous day. As haemorrhage continued the uterus was explored, and some adherent remains of decidua and membrane were removed. Examination of the scrapings showed no evidence of hydatidiform tissue. The patient was discharged well, but two months later was re-admitted to hospital suffering from severe bleeding. Curettage was performed, and during the operation haemorrhage was so free as to necessitate packing of the uterus. Although microscopically there was no evidence of chorion-epithelioma, the clinical features were so strongly suggestive of this diagnosis that panhysterectomy was performed. The patient made a rapid recovery. Examination of the uterus showed marked invasion of the deeper muscle layers with trophoblast cells, multiple thrombi in the efferent blood channels, multiple areas of haemorrhage, and a definite decidual reaction along the line of the blood vessels.

Dr. James Young then read a paper on hydro-ureter and hydronephrosis secondary to prolapse of the uterus and cystocele. During five years he had seen two cases of this complication of cystocele.

The first was in a cadaver in the dissecting rooms of the University. There was an extreme prolapse of the vagina, cervix, and bladder, and there was marked bilateral hydro-ureter and hydronephrosis. At their upper ends the ureters were as broad as the wrist.

The second case was that of a woman aged 52, who was admitted to the Edinburgh Royal Infirmary with a history of prolapse of sixteen years' standing. A pessary had not been worn. The specific gravity of the urine was 1008. There was a trace of albumin, no pus, blood, or sugar. Three days after the ordinary plastic operation for prolapse and cystocele she died with suppression of urine. At the *post-mortem* examination a marked degree of bilateral hydronephrosis was found.

Dr. Young had been so much impressed by the glaring pathological changes present in the first case and by their importance to gynaecologists that, in his textbook in 1921, he had described hydro-ureter and hydronephrosis as one of the complications of cystocele. He referred to a paper in the *American Journal of Obstetrics and Gynecology* of December, 1923, by Brettauer and Robin, which was based on a study of ten cases of prolapse during life. In eight cases (80 per cent.) there was hydro-ureter and hydronephrosis. These authors referred to an investigation of Tandler and Halban, who in 23 autopsies on cases of prolapse found hydro-ureter in 15. No mention of the kidneys was made, as these had previously been removed without being examined. Dr. Young held that the presence of this abnormality, hitherto unsuspected by the operating gynaecologist, indicated the need for a careful examination of the kidney function before an operation was decided upon. This examination was important in long-standing cases of cystocele in which the risk of severe kidney damage was especially great. In the future a seriously embarrassed kidney function must be added to the contraindications to the treatment of prolapse and cystocele by operation.

Dr. J. Ramsay Munro read a communication on the administration of thyroid gland during pregnancy. He suggested that thyroid deficiency was occasionally a factor in the causation of premature labour, and described two cases in which premature stillbirth had occurred, and in which the administration of thyroid extract had been followed by the delivery at term of a healthy child.

Reviews.

SECRETION.

In writing his *Introduction to the Study of Secretion*,[1] a little book founded on a course of eight University lectures, Professor Swale Vincent has had as one of his chief objects "to examine the main facts of secretion and 'internal secretion' to see how far they may legitimately be included in a common category." After a brief review of the history of our knowledge of secretion, the histological changes in various types of gland cell during the secretory process are described. This leads to a consideration of the physical and chemical mechanisms of secretion, and here the author draws largely from Bayliss's *Principles of General Physiology*. A change in the permeability of the cell membrane, with the consequent production of large changes in the osmotic forces, is probably one of the most important physical antecedents to secretion, although the possibility that other factors such as diffusion and surface tension may take part in the phenomenon must not be overlooked. The change in permeability of the cell membrane leads to a separation of ions of opposite charge; this is reflected in the electrical variations of potential which have been known to accompany the secretory act since their discovery by Bayliss and Bradford in 1885.

So little is known, however, of the intimate nature of the processes of secretion—and these indeed must differ fundamentally in different types of gland—that the principles underlying them can only be guessed at. Consequently we are not surprised that the author has to content himself with a description of the various means—chemical and nervous—which are known to rouse a gland to activity and

[1] *An Introduction to the Study of Secretion.* By Swale Vincent, LL.D., D.Sc., M.D., F.R.S.Ed. and Can. London: Edward Arnold and Co. 1924. (Demy 8vo, pp. 168; 35 figures. 10s. 6d. net.)

of any morphological changes which are seen to accompany the act. Two chapters devoted to a summary of the main facts known with regard to the secretion of special substances such as gases, silk, poisons, and tears, brings the first part of the book to a close.

The second part deals with internal secretion. "The process consists in the preparation and setting free of certain substances of physiological utility (the raw materials for which are supplied by the circulating blood) by certain cells of a glandular type; the substances set free are not passed out on to a free surface, but into the blood stream." The author rightly insists that the pharmacological action of an extract of a gland is no criterion of the normal or abnormal production of such a substance and its indispensability to the animal economy. The extract of the posterior lobe of the pituitary is an excellent example of this maxim. Although the substance has such well marked and definite pharmacological properties, removal of the gland in the dog, care being taken not to injure the surrounding tissues, is unaccompanied by the polyuria of "pituitary inadequacy," whilst the condition is speedily brought about by injury to the hypothalamic region of the brain. The evidence for the normal passage from the endocrine glands of some substance into the blood stream is necessarily derived chiefly from experimental and clinical data. We do not agree with the author that "there must be histological evidence of secretion in the essential cells of the tissue in question before we can place any given structure definitely and certainly among the organs of internal secretion." We can conceive of comparatively simple substances being secreted without any accompanying structural change sufficiently intense to permit histological identification. Indeed, in the case of the kidney the author admits that "the act of secreting urine appears to have no influence on the structure of the protoplasm in the cells of the convoluted tubules." Yet the experimental evidence in favour of the tubule cells secreting such substances as urea and sulphate into the glomerular filtrate is very strong.

The experimental and clinical evidence for the production of internal secretions is limited to a very few of the endocrine organs, such as the thyroid, pancreas, and chromaffin glands, yet "there is scarcely," the author says, "a branch of biological science which does not now call in the aid of hypotheses derived from the realm of internal secretion. In medicine and therapeutics 'endocrinology' constitutes the fashion of the day. The evolution of man is said to be modified by changes which have occurred in certain organs of internal secretion. The behaviour of human beings is attributed to variations in the functions of the ductless glands. Health, happiness, and personal character are all alleged to depend on the adequate and harmonious functioning of the endocrine organs. In books on the subject we find such headlines as 'environment and heredity,' 'earliest impressions,' 'discipline,' 'nagging,' 'parents as teachers,' and so on, and every conceivable topic concerning physical, social, and moral welfare is dragged into the discussion."

The book, which contains a well selected bibliography, will be found useful by those who desire a short and up-to-date account of the present state of knowledge in this difficult realm of medical science.

CLINICAL HAEMATOLOGY.

The treatise on clinical haematology[2] Professor Rieux has published recently is an amplification of a small volume which appeared in 1911. He has aimed at writing a book which would be sufficiently detailed to satisfy the needs of the medical student and of the clinician, and at the same time strike the happy mean between the "too succinct" and the "too discursive." In order to succeed in such an undertaking—to eliminate the unproven theory, to avoid redundancy, and discard what is not necessary—calm deliberation and critical judgement are demanded, and the author has performed his self-imposed task admirably. There is, perhaps, a little tendency to quote old theories, but not to the exclusion of the more recent. This, however, is not altogether a matter for regret, since a treatise on haematology should deal to some extent with the history of the science, and this has been indulged in very judiciously. The work covers more than the title would indicate; it is a treatise on haematology not merely clinical; it is a book to read and read again, and then keep for reference; those who expect to find it a laboratory work, with instructions for carrying out blood examinations in connexion with clinical cases, will probably be disappointed.

The book is divided into six parts, each subdivided into chapters and sections. The first treats of general haematological technique, and is useful in bringing to mind in a few sentences work which has already been learned from books giving greater detail and from practical work in the laboratory, but is in the main too brief to be a guide for the student, except from the theoretical aspect of the subject. For example, the chemistry of the blood occupies only five pages. In this section is a useful table elucidating the confusion which has been caused by the various terminologies used by modern haematologists in naming the blood cells. The principles of stains and staining methods are well explained, but we miss any mention of Leishman's stain, which is easy of application, very generally used, and gives excellent results. The second part is concerned with physiological haematology, and describes the genealogy of the various cells, the biological properties of the serum, and the histology and physiology of the haemopoietic organs. The origin of the various corpuscles is well stated, but the value of the text would be enhanced if a plate could be included depicting each of them. The next two parts treat of pathological haematology: First from the analytical aspect, dealing with the different cells in order; the serum and its phenomena of agglutination, precipitation, and fixation of complement; the whole blood, its physical and chemical properties; and, finally, the haemopoietic organs in general terms of myelopathies, lymphadenopathies, and splenic conditions. The second deals with the subject of pathology from the synthetic aspect of various diseases—leukaemias, pseudoleukaemias, polycythaemia, the anaemias, and haemorrhagic conditions. The fifth part is devoted to bacteriology and parasitology of the blood, and this is the least satisfying. The final section treats of blood transfusion—its principles, its indications, and its risks.

The author has kept more or less strictly to established facts and to essentials. The bibliography is limited to occasional footnotes. Illustrations in the text are few, but the coloured plates at the end of the book are good, except that of subtertian malaria, which is somewhat crude. Regarded as a book for the practitioner's library it leaves little to be desired, but a few points may be mentioned for consideration when, as is almost certain, a new edition is called for. The technique of serological methods is only cursorily described, practical details being almost entirely omitted; haemolytic action of serum, agglutination, complement fixation, and opsonic estimation are all dealt with in a half a dozen pages, and though it is stated that titration of the materials for the Wassermann reaction must be carefully carried out no instructions are given for so doing. Though fourteen pages are given up to an account of Hodgkin's disease we fail to find any reference to the Pel-Ebstein syndrome. Two pages are taken up in describing haemogregarines in human blood, whereas filarial embryos are dismissed in a couple of lines, and, strange to relate, embryos of *Dibothriocephalus* are said to be parasitic in the blood of man. The parasite of subtertian malaria is spoken of throughout the book (except in one instance) as the *Plasmodium praecox* or *Pl. immaculatum*. The former is usually restricted to bird malaria; the latter, if not a *nomen nudum*, is not in general use. Lastly, in speaking of agglutination of the *Bacillus typhosus* by the serum of patients, it is said that "agglutination may be very high, 1 in 200 for example, but this is rare, the usual titre being 1 in 100 to 1 in 500." Misprints are not numerous; the paper and printing are good, but, as is frequently noticeable in French books, the index is poor. As a whole, however, the work is remarkably good, the subjects discussed are well chosen, the theories clearly and succinctly expressed.

[2] *Traité d'hématologie clinique.* Par J. Rieux, Médecin-Principal de 1ère classe, Professeur au Val-de-Grâce. Paris: Gaston Doin. 1924. (Roy. 8vo, pp. 770; 16 figures, 16 plates. Fr. 70.)

SURGERY OF THE NOSE, THROAT, AND EAR.

THE first edition of Dr. GEORGES LAURENS's textbook on the operative surgery of the ear, nose, pharynx, and larynx appeared in 1906, and was reviewed at some length in these columns. The general plan of the book remains unchanged in the second edition.[3] Endoscopic exploration of the oesophagus is naturally included, but the more elaborate plastic operations on the head and neck, for example, a domain invaded by many laryngologists since the war, in France especially, receive no mention. The scope is thus well defined and everything else in the work is equally definite and clear cut, as might be expected in a leading French textbook. The indications for each operation and the method of performing it are described in great detail, and yet with a vivacity and precision which make fascinating reading of a subject that might easily be dull and tedious. Whilst the author has consulted the latest literature in order to bring the new edition abreast of the times, yet he has impressed his own personality on the work as a whole, and the reader is made to feel that he is not consulting a mere compilation, but is reading the work of a great master in whose experience and sagacity he can place the fullest trust. Dr. Laurens has done for aural and laryngeal surgery what Jacobson did for general surgery, and no higher praise can be offered than this simple statement. He gives a clear lead on each topic from his own experience.

The whole subject, however, is still young and in some respects in a state of transition; consequently there will be found some statements with which some or even many may disagree. For example, his enthusiasm for Luc's radical operation for the cure of suppuration in the antrum of Highmore will not now meet with universal approval in this country. Many cases are cured by the simpler intranasal operation, and the unpleasant sequelae, immediate and remote, of the greater operation are avoided. Laurens, however, still considers Luc's by far the best operation, and says so quite definitely, though he gives excellent descriptions of alternative methods, such as the intranasal operation and the operation of Denker. Local anaesthesia receives much attention, as it should, for it is only by meticulous attention to detail that uniform success with these methods is obtainable; once again the French tendency towards local in preference to general anaesthesia in these branches of surgery is clearly revealed.

The size of the book makes it an adequate work of reference, and moreover it is one which provides definite advice and instructions. To any surgeon recently appointed to a special hospital or department this volume will be invaluable, and such a one is strongly advised to keep a copy on his bookshelf.

The authors of *Intranasal Surgery*,[4] with the co-operation of their publishers, have produced a book which in the excellence of its illustrations, the perfection of the printing, the firmness of the rich red binding, and the luxury of the thick glazed leaves, leaves nothing to be desired. Moreover, the authors have done well that which they undertook to do, but the subject is approached from such a restricted point of view that the usefulness of the book is marred. For example, if the surgery of the frontal sinus is described in a book, the description should be complete and not confined to one method of approach. The descriptions given are adequate and careful, but there is a tendency unduly to exalt intranasal surgery, and the impression is conveyed that there is scarcely a nasal septum to be found which could not be improved by an appropriate submucous resection. An excellent intranasal operation on the antrum of Highmore is described, and the authors' comment is worth quoting: "The radical operation as devised by Luc, Caldwell, or Denker should not be a routine operation in diseased antrum. Undoubtedly the nerve supply to the incisor and canine teeth is destroyed by these operations." The conditions which call for a radical operation are described, but here again the limitations of the work exclude a description of any of these operations. Within its limits the book is good and is a useful supplement to the ordinary textbooks on rhinology.

[3] *Chirurgie de l'oreille, du nez, du pharynx et du larynx.* Par Georges Laurens. Deuxième édition, entièrement refondue. Paris: Masson et Cie. 1924. (Roy. 8vo, pp. xiv + 1052; 792 figures. Fr. 100 net.)

[4] *Intranasal Surgery.* By Fred J. Pratt, M.D., F.A.C.S., and John A. Pratt, M.D., F.A.C.S. Philadelphia: F. A. Davis Company. 1924. (Med. 8vo, pp. xv + 334; 194 figures. 5 dols. net.)

COMMERCIAL ORGANIC ANALYSIS.

Allen's Commercial Organic Analysis is a laboratory handbook designed for the use of analysts concerned with non-mineral substances. Our recollection of the first edition is that it was only very good in certain parts. Allen's own contributions were well done; he was a capable analyst and possessed a gift for clear description; the matter abstracted from other sources was not so satisfactory. The construction of Volume I of the new (fifth) edition[5] is uniformly good. The contents are divided into sections under appropriate headings, each contributed by an experienced authority, and contributors have been sought on both sides of the Atlantic. This is an improvement; no better scheme of compilation could have been devised, and Allen's own conception has been more fully realized than before. The sections include alcohols, malt and malt liquors, sugars, wines and potable spirits, starch, paper, yeast, and a group of the aliphatic acids.

Sometimes an analyst can accomplish his work under guidance of the well known rules of physics and chemistry; more often he has to follow a devious course under disturbing effects from unknown or unmeasured influences. For these cases he needs not only direction as to method but also instruction from one whose large experience has taught him the causes of failure and error. It is in this sense that the character of the work has been developed on broader lines. A great number of methods have been proposed at one time and another, for the recognition and approximate determination of methyl alcohol in the presence of ethyl alcohol; this fact is evidence that no single method has given general satisfaction. In the volume before us it is pointed out with reference to this subject that varying circumstances call for alternative methods; several of the most trustworthy are described and their merits and demerits carefully appraised. Such judgements represent the strong character and value of the volume. Its measure of usefulness is enhanced by miscellaneous information relating to the articles treated. A book is of value if it contains the sort of information that is most frequently hard to get. Under chloral hydrate, for example, the unexpected statement is found that its use for drugging liquor with criminal intent has been so far practised that the solution has acquired the sinister name of "knock-out drops." No one who consults the work for guidance in analytical methods is likely to be disappointed.

[5] *Allen's Commercial Organic Analysis.* Edited by Samuel S. Sadtler, S.B., Elbert C. Lathrop, A.B., Ph.D., and C. Ainsworth Mitchell, M.A., F.I.C. Fifth edition, revised and in part rewritten. London: J. and A. Churchill. 1924. (Med. 8vo, pp. viii + 796; 105 figures. 30s. net.)

NOTES ON BOOKS.

THE second part of the fifty-seventh volume of *St. Bartholomew's Hospital Reports*[6] begins with a short but sympathetic obituary of Dr. Hugh Walsham, who, like so many pioneers in *x*-ray work, paid a heavy penalty for his devotion to this dangerous branch of medicine. Walsham was established as a physician with a special interest in disease of the chest when *x* rays were discovered, and was therefore specially fitted to advance our knowledge of skiagraphy in this respect, and this he most certainly accomplished. In his pleasantly written article on William Harvey and the hospital, Sir D'Arcy Power first envisages a friendship between Inigo Jones and the discoverer of the circulation, then deals with his appointment of physician to the hospital in 1609, which lasted till 1643. Mr. Geoffrey Keynes appropriately follows up his paper on Dr. Edward Browne by publishing for the first time notes for a lecture on the skin which Sir Thomas Browne sent to his eldest son, lecturer at Chirurgeons' Hall; the manuscript is among the Sloane Collection in the British Museum. Dr. A. G. Shurlock reviews the history and hypotheses of summer diarrhoea in infants, and concludes that the view of its causation by prolonged hot weather on infants suffering from nutritional disorders explains nearly all the data of the distribution of its incidence, and that there is little evidence that bacteria gain virulence by passage through the intestinal canal of a sick infant. Sir Frederick Andrewes lucidly reviews the recent work on the causation of rickets, a subject on

[6] *St. Bartholomew's Hospital Reports*, Vol. lvii, Part II. London: John Murray. 1924. (Cr. 4to, pp. 93-174; 5 plates. 10s. 6d. net.)

which he gave two lectures during May last at the hospital. In a note on two cases of implantation dermoid cyst Mr. J. Paterson Ross distinguishes between them and cysts forming around foreign bodies. Mr. R. C. Davenport reports three cases of intraocular foreign bodies, illustrated by three plates.

The first volume of the *British Journal of Experimental Biology* has been completed by the publication of the fourth number. It is issued quarterly from the Animal Breeding Research Department of the University of Edinburgh, and is edited by Mr. F. A. E. CREW, director of that department, with the assistance of an editorial committee representative of other universities. It is the official medium for the publication of work done by members of the Society for Experimental Biology. The general character of its contents may be judged from this fact. It has contained series of papers on the comparative physiology of digestion and on internal secretions, including one in the last number on the action of pituitary extract and adrenaline on contractile tissues of certain invertebrates. This number contains also a paper from the zoological laboratory of Harvard University on skin grafts in the lizard, from which it appears that autotransplants of pigmented skin on a white region and of white skin on a pigmented region both exhibit a strict specificity. There is no migration of the pigmented cells. The journal is adequately illustrated in black and white and in colours. It is published by Oliver and Boyd, of Edinburgh and London, and the annual subscription is 40s. The price of a single number is 12s. 6d.

Dr. HENRY A. ELLIS'S pamphlet on *Reaction in Relation to Disease*,[1] which is a reprint from the *Medical Officer* of a paper read at the conference of the Tuberculosis Society of Great Britain and Ireland in March, 1923, forms an introduction to a research conducted by the author into the biochemistry of the urine in relation to health and disease. Dr. Ellis's conclusions, which are based on the study of about 1,000 specimens, are as follows: (1) All persons have acid, normal, or alkaline constitutions. (2) In tuberculosis a definite alkaline incidence is necessary for activity of the disease in addition to the infection. (3) Arterio-sclerosis and heart disease with high blood pressure occur in almost all acid cases. (4) In acid cases there is considerable danger of renal insufficiency from the acid injury to the excreting tissues. (5) Septic fibrositis with low blood pressure is often an alkaline condition, whereas true metabolic rheumatic fibrositis is acid.

[1] *Reaction in Relation to Disease.* By Henry A. Ellis, B.A., M.B., Ch.B. London: H. K. Lewis and Co. Ltd. 1924. (Cr. 8vo, pp. 28; 3 figures. 1s. net.)

THE ROYAL SANITARY INSTITUTE CONGRESS AT LIVERPOOL.

(*Concluded from page 149.*)

PREVENTION OF MATERNAL MORTALITY.

At the Health Visitors' conference Miss MILDRED S. LOWE, superintendent of health visitors, Warwick County Council, read an interesting paper on the objects and training of health visitors. They should, she said, bear the same relation to preventive medicine as nurses to curative medicine. She instanced five branches of public health work in which health visitors were of vital importance: (1) ante-natal clinics and home visits, (2) maternity beds under the supervision of the Ministry of Health, (3) midwifery service, (4) infant welfare centres, (5) the following up of cases under the medical inspection of school children. In health matters the two blackest spots, which even after twenty years had only slightly been reduced in shade, were the high maternal mortality rate and loss of infant life. In the respect of maternal deaths this country compared unfavourably with Germany, Norway, Italy, Sweden, and Holland. In 1922 some 3,000 mothers died in connexion with childbirth, and 60,121 infants died before reaching twelve months old. If stillbirths were also included, the total loss of maternal and infantile life for one year only would approach 166,500. In conclusion, she urged that midwifery in all its branches should be the most important part of the health visitor's training. In New Zealand, 400 newborn babies a year were considered sufficient for the care and supervision of one health visitor, whereas in some districts of London the health visitor was expected to supervise 1,200 in a year.

Maternity and Child Welfare.

Dr. E. W. HOPE (M.O.H. Liverpool), in his presidential address to the Section of Maternity and Child Welfare, gave a review of the work that had been achieved by the city health authorities during the past twenty-five years in the preservation of maternal and infant life. The mortality rate has been reduced by practically one-half. In Liverpool there were twelve pre-maternity centres under medical supervision and fourteen post-natal and infant clinics, where preventive medicine was expounded and suitable hygienic advice given. In case of disease the sufferers were sent to their own doctors. Liverpool had eighty health visitors, and the Ministry of Health urged that the number should be increased. He pointed out that maternal mortality was greatest in rural districts where medical skill could not readily be obtained, and urged the establishment of maternity homes to which women living in remote places could go. In these days of rapid and easy communication the maternal mortality should rapidly decrease. The improvement in infant mortality was shown by the fact that in 1923 the number of children who died before one year old was about one-half of the number in 1883. In conclusion, Dr. Hope emphasized the value of sunlight, fresh air, and appropriate food in the prevention of diseases to which childhood was liable. The housing problem had an intimate bearing on these points, for many children were compelled to sleep in most unsanitary conditions, which would disappear with its solution.

Health in Factories.

The Section of Industrial Hygiene was opened with a presidential address by Dr. T. M. LEGGE (Inspector of Factories, Home Office), which he was unfortunately unable to deliver in person. It contained an interesting account of factory and workshop legislation from its inception, and showed the benefits that had accrued to the workers from a health point of view; but the health of young persons should be better taken care of when in the factory. Hitherto a kind of negative certificate only had been required—namely, that the worker was not disabled by disease or bodily infirmity for working full time according to law. Dr. Legge advocated: (1) Initial detailed examination of all applicants for work, giving, where necessary, conditional certificates. (2) Re-examination of such persons as the medical adviser deemed necessary. (3) Periodic medical examination of workers in dangerous processes. (4) Inspection, periodically, to see that first-aid and ambulance equipment was in good working order. Dr. F. E. FREMANTLE, M.P., stated that the whole health system of the country was at present barred from the factories and workshops, and urged that the Ministry of Health should be approached with a view to remedying this. Dr. DEARDEN (Port Medical Officer, Manchester) put forward the following resolution:

> That in the opinion of this Section the first step to be taken in organizing medical and sanitary supervision in industry should be the establishment of a factory medical service attached to the Ministry of Health.

This was adopted, and the special attention of the Council was drawn to the observations of Dr. Fremantle on this subject.

The Health of Children.

In the Personal and Domestic Hygiene Section, the health of the child was the subject with which most of the papers dealt. "Prevention better than cure (treatment)" was the important end in view, and no possible avenue of attaining this object should, it was said, be left unexplored. In the schools, domestic hygiene should be regarded as one of the most important subjects of instruction. Dr. NASH (Hounslow) advocated that temperance should be taught in the schools on strict scientific lines, and not allowed to get into the hands of cranks and faddists. The importance of breast-feeding in the interests of both mother and child was the subject of a paper by Dr. KATHERINE M. L. GAMGEE (Hull), who said that her experience was that the post-war mother was decidedly not as willing to nurse her baby as the pre-war mother had been. Health visitors should pay particular attention to urging every mother to do her duty in this respect.

Meat Inspection.

At the Veterinary Inspectors' conference it was stated that large quantities of tuberculous meat were sold for consumption and eluded inspection. Several dodges were described, and details were related of an instance where the tuberculous material was removed from the vertebrae and the cavity filled with fat. Private should be replaced by public abattoirs, and all animals intended for human consumption should be submitted to *ante-* as well as *post-mortem* examination. Resolutions affirming these principles were passed, with the request that the Council of the Institute press them on the attention of the Ministry of Health.

Quarantine and Ship Sanitation.

Dr. J. G. MOYLES, in his presidential address to the conference of Port Sanitary Authorities, dealt historically with quarantine and the various measures that had been adopted by countries to prevent the importation of disease. With regard to plague, rat extermination had been most efficiently pursued. Sulphur fumigation up to the last eighteen months had been the usual means of getting rid of these animals, but more recently hydrocyanic acid had been used, and as a time and labour saving process this agent had been most successful. The danger to life was great, but every precaution was taken to protect the men employed from inhaling the gas. This country had always led the way in devising schemes which would effectively prevent the introduction of epidemics and at the same time be as little burdensome as possible upon sea-borne commerce.

Dr. W. Hanna, medical officer of the Port of Liverpool, read a paper on the present standard of ship sanitation, and Dr. J. Howard-Jones read another on the hygiene of the tramp steamer. During the discussion which followed it was observed that the death rate of merchant seamen was imperfectly known, the only available statistics being those of the Board of Trade, which contained no percentages and in which an obsolete classification of diseases was employed. Efforts for improvement in hygiene were being hampered thus, and the conference therefore recommended the Council to petition that the classification of the Board of Trade might be brought up to date, and that matters relating to the health of sailors should be transferred from the Board of Trade to the Ministry of Health.

MEDICAL WOMEN'S INTERNATIONAL ASSOCIATION.

We mentioned briefly in our issue of July 19th that the Medical Women's International Association had met in London on July 14th and following days. Owing to pressure on space, due to the reports from the Annual Meeting at Bradford, we were last week compelled to postpone the publication of any further report.

This was the third meeting of the association, the two previous congresses having taken place in New York and Geneva respectively. At the meeting in London the association came into being as a well organized society functioning under rules agreed upon by elected delegates from the various countries, and under constitutionally appointed council and officers. The retiring president was Dr. Lovejoy of New York, and the new president Lady Barrett, M.D. The meeting was held in the rooms of the Royal Society of Medicine. Delegates from fifteen out of nineteen possible countries were present: Great Britain 7, Australia 5, United States 28, South America 1, Germany 6, Turkey 1, India 12, Norway 3, France 3, Switzerland 2, Czecho-Slovakia 1, Austria 1, New Zealand 5, Poland 4, Russia 2. The foreign delegates were guests of the Medical Women's Federation, a large number of whom attended. Hospitality was arranged for the foreign guests, and with the generous co-operation of a committee of friends an interesting programme was carried out, which enabled the guests to see the various public features of English life. In addition to visits to institutions and hospitals, the guests were received by the Archbishop of Canterbury and Mrs. Davidson at Lambeth Palace, at the House of Commons by various members, by Miss MacDonald at Downing Street, by Mrs. Creighton at Hampton Court, and by the *Lancet* staff. On July 19th a party of between thirty and forty visited Bath, where they were entertained at luncheon by the Mayor and Corporation, and were shown the baths and other objects of interest. All the prominent women's clubs in London gave hospitality, and Lady Sybil Smith, Lady Barrett, and others, both medical women and friends, gave various receptions and lunches to the delegates. The annual dinner of the Medical Women's Federation was attended by 320 members, friends, and delegates.

As so much business concerning the International Association had to be done on the various days, only one day (July 17th) could be set aside for a medical discussion, or for reading papers, and it was decided to concentrate upon one subject of interest to all delegates. The subject chosen was maternal morbidity and mortality, causes and treatment. Representatives of each country, taken in alphabetical order, were asked to speak.

Discussion on Maternal Morbidity and Mortality.

Lady Barrett, M.D., president of the association, opening the subject, said that all would recognize that the chief causes of maternal mortality were sepsis, toxaemias, haemorrhage, difficult labours, and complicating organic diseases. In gynaecological practice patients were found to suffer mainly from the results of badly managed labours and sepsis. The general health of women was far below the standard that could protect them from toxaemias, and this subtracted from the effectiveness of the uterus in labour. One of the great problems was the health and conditions of life of child-bearing women. In Great Britain there were certain groups concerned in watching the women's health, and in improving it, and also groups concerned with the education of doctors and midwives. The midwife was the important factor. She had more leisure than the doctors for observing the patient's symptoms. She could, in this respect, be an important factor in the prevention of illness or death. The number of maternity clinics, with ante-natal and post-natal care as their object, was continually increasing. More and more beds were being provided for women who needed them, and also small homes linked up with large hospitals. The scheme was very good on paper, and also in practice in certain places where the mortality was half that of the country as a whole. The poorest woman should have access to what she needed.

Dame Janet Campbell, M.D., M.S., Senior Medical Officer of Health for Maternity and Child Welfare, Ministry of Health, outlined briefly the work of the public health service in relation to maternal morbidity. The Ministry of Health was responsible for directing, approving, and instigating the work. The cost of the services was divided between the Government and the local authorities. There had been almost no reduction in maternal mortality during the last thirty years. Three thousand women died last year, or one for every 250 births. In 1902 the Midwives Act had given better midwives, and puerperal sepsis had come down a little, but still accounted for two-fifths of the maternal deaths. The regulations required that every case of puerperal fever should be reported by the doctor to the medical officer of health in order that the patient might receive all necessary treatment, and that infection might be prevented. But, in practice, only a small proportion of these cases were reported, and these chiefly when the patient was very ill or dead. It was hoped to improve notification and so make the chances of success better. The local authority had wide powers to improve treatment, and was ready to help the doctor or woman who asked for assistance. Ante-natal supervision was provided in maternity centres, many of which were staffed by women who were expected to have a special knowledge of midwifery. There were splendid staffs of nurses, and the maternity centre provided examination, and advice, and instruction, and treated minor ailments. Complications were referred to special hospitals. Venereal disease was treated in some centres. Post-natal treatment was also given. It was the function of the Ministry of Health to approve of the nursing staffs, to receive reports, and so on. The duty of the local authorities was to assist women in their own homes and to provide midwives; if a doctor was called in by a midwife he was paid by the local authority. Skilled nursing in the patient's home was to be had, and domestic help was also provided. The patient could be given food for three months before confinement, and could also be given milk. Under the National Insurance Act the wife of an insured man got £2, and, if she herself was insured, £4, which she might spend as she pleased. But propaganda was necessary to enlighten public opinion on maternal care. For the last few years the Health Department had been hampered for lack of funds, but it could now go ahead, and a circular had been sent out encouraging effort and promising help.

Dr. Balfour (India) said that the circumstances in India were very discouraging. Medical men and women were excluded from the normal lying-in room. There were no professional midwives, and the middle-aged native nurses knew nothing and were in the habit of interfering unnecessarily. Medical women were only called to serious complications, and often the mother died or the child was lost. A public health department now devoted attention to childbirth, but was heavily handicapped. In Bengal 84 per cent. of mothers were under 30 years of age, and the mortality of these was 14.8 per 1,000. In 1921 60,000 women died in childbirth, and 1,000 of tetanus. In important towns the rates were very high. In Poona the death rate was 32 per 1,000 in mothers and 850 per 1,000 in infants.

Dr. Helen Boyle (Brighton) said that an important side of maternal morbidity was the nervous and mental. The danger of even slight or of permanent damage could not be overestimated. Notification of symptoms in early cases might prove effective, but they ought to be prevented. Puerperal insanity was hardly ever seen in a woman who had suckled her child; the fact that lactation was an excretion for the benefit of the mother was overlooked. It was a mistake to stop lactation on account of nervous symptoms. She would commend to their notice also the cases of fifty-four women who had been allowed to suckle their children when febrile: the infants did perfectly well. In a large number of these women the nervous element began long before pregnancy. It might start in childhood and only be brought out in pregnancy. The woman should never have had that weak spot. Every child should be carefully watched as to its nervous development.

Dr. Davis (United States) said she had spent many years in the exclusive practice of maternity work. The whole subject was bound up with pre-natal conditions. The naturally delicate or somewhat degenerate might live badly, and healthy women might do the same. American women were not starved. Some ate too much and had oversized children. America believed in education, and hygienic instruction on maternity should be given in public schools. She admired the English college degree in domestic science. As regarded the nursing technique, some

thing must be wrong where so many cases were lost through infection. A simpler technique might be safer. Every nurse should be taught about gonorrhoea in this connexion. In the majority of cases the patient could be made safe, but there was more trouble with toxaemia than with infection. In America eclampsia was often caused by too little exercise and too much food. In infection it was important to use oakum instead of vulvar pads, and to drain the uterus by raising the head of the bed. Incomplete drainage resulted in chronic gynaecological infection. The teaching of midwives was a great problem in the United States. The midwife was ignored, but she prevailed. She came from foreign countries, and attended foreign women. About one-third of the cases were delivered by these women in Chicago.

Dr. HEUSLER-EDENHUISEN (Germany) spoke on the prophylaxis of eclampsia in 1918-20, when a large percentage of the population were very much underfed, and the individual lost, on an average, 17 kilos in weight. Women were often exhausted, and had a very low blood pressure—for example, 116. This saved them from eclampsia, for the attacks were caused by high blood pressure. It was found wise to limit the diet of pregnant women, and to give them green salad and fruit. In addition to this the morphine-scopolamine method was employed. With this, in her experience, the blood pressure went down from 180 to 130, and symptoms disappeared in an hour or an hour and a half. "Twilight sleep" was one of the best prophylactics against eclampsia. From the experience of twenty years' practice she was convinced that puerperal fever was due to the introduction of septic material before the confinement. In the Rhine districts there was a belief that coitus in the first pains of labour made the confinement easier. She believed a large number of cases of sepsis were due to this. She had always ascertained the time of the last coitus, and it was never later than the day before the labour. She forbade it after the fifth month of pregnancy, and where this instruction was carried out had had no more cases of sepsis. The women of all countries should be enlightened on this matter.

Dr. ILNICKA (Poland) discussed the occupations which were injurious to women. There was a high mortality among factory workers, who became feeble and neurasthenic and prone to tuberculosis. Such occupations as sewing machine or laundry work contributed to abortions. Inspectors and doctors should work in co-operation. She spoke of the provision made for expectant mothers, and of the nervous and neurasthenic effects on them of too much work. In Poland women did more hard work than men.

Dr. CHAPMAN (New Zealand) described a "safe maternity" campaign recently conducted in Wellington in order to rouse public interest in the serious situation that existed with regard to maternal mortality. In five years, out of a population of a million, there had been 755 puerperal deaths. These could be attributed to three causes: (1) lack of ante-natal care and advice; (2) the existence of private maternity homes (State-supported) run by midwives, but not well run; (3) the scattered population, although the women could often come into town before their confinement. An effort was being made to provide ante-natal advice in connexion with maternity hospitals, and to educate people to use them. It was proposed to do away with the private maternity homes and to give private treatment in public maternity hospitals. Dr. Chapman also spoke of Dr. Truby King's excellent work. The Health Department was being supported in its attempts to protect mother and child against the too frequent use of forceps, in supplying skilled help to patients, and in educating the public. In the ante-natal work human touch and sympathy were needed. It was confidently hoped that, with the help offered by the Government, the death rate would be lowered.

Dr. IVENS (Liverpool) said that four things would help to combat maternal mortality: more ante-natal care, early discovery of complications, major and minor, the avoidance of forceps, and a very careful examination and careful history of the case. Gonorrhoea and a previous sepsis were frequent causes of sepsis. Venereal clinics should be conducted in connexion with maternity hospitals. There should be a more ample provision of maternity beds. Maternity cases should have the best hospitals. The work of midwives in normal cases was extremely good, but they did not take sufficiently early steps to have difficult cases removed to hospital. Obstetrics should have a more important place in the medical curriculum. Not only mothers, but doctors had to be educated. Every clinic should have a good obstetrician in charge of it, not a junior medical man.

Dr. LEACOCK (Canada) said that in Canada there were no midwives. Experienced women were allowed to attend any woman who lived thirty miles from a doctor. Now that there were more country doctors midwives had almost disappeared. For the last five years she had studied the bacteriology of puerperal infections, and had come to the conclusion that the infective agents were the staphylococcus, gonococcus, pneumococcus, *Bacillus coli*, and streptococcus. The streptococcus was concerned with local infections. Extrinsic causes of infection were dirt and squalor and infective foci in others—for example, septic tonsillitis, local abscesses, etc. Streptococci in the uterine tract might cause septicaemia. If such cases were about, steps should be taken to protect the patient. Intrinsic causes were previous streptococcic infection—for instance, after abortion, after influenza of a severe epidemic type, or after streptococcic pyelitis or salpingitis. All these exposed the patient to general infection. The streptococcus might persist for years in the Fallopian tube. Patients should be warned not to become pregnant for at least two years after an infection or illness like influenza. If, in constant daily cultures, streptococcus was grown, the result was invariably fatal.

Dr. V. LEBEDEV (Russia) described in a paper the maternity and child welfare work entrusted to the People's Commissariat of Health in Soviet Russia. This body aimed at providing the best conditions for parturient women, and for supervising the health of mothers. Motherhood was considered a social function. Any suggestion of philanthropy was excluded. The help given was regarded as the duty of the State towards the woman who was continuing the race. Crèches were very numerous, for it was considered that through them mothers would be able to combine motherhood with useful social work. Consultation centres, milk canteens, and friendly help in educating mothers were in existence. There were homes where women could stay for four months. A manual worker could receive four months' wages, and an intellectual worker twelve weeks' pay. There were forty-four consultation clinics and thirty-five maternity homes under the Commissariat of Public Health.

Dr. MEAD (United States) spoke of conditions in the Middle States. There was a body of nurses, in the proportion of 9 to 25,000 people, who visited their patients by motor cars. Their work was with pre-natal cases. Most of the very poor people were now provided with midwives and doctors.

Dr. RUDENHOF (Austria) spoke about the intense exhaustion caused by tuberculosis. Pulmonary tuberculosis was especially dangerous to the pregnant woman. Even in cases where it did not seem grave the woman often died after the birth. It was dangerous because of the high temperature and risk of haemoptysis. The bacillus was not dangerous in itself. In grave cases, and as a last resort, pregnancy should be interrupted. In Austria there was a system of sick insurance. The nursing facilities were very good.

Dr. SAFIEH ALI (Turkey), who is at work in the obstetrical and gynaecological wards of the American Hospital at Stamboul, and who is so far the only Turkish woman doctor in her country, described her work. The head of the obstetric and gynaecological work of the Stamboul Maternity was Professor Bessim Omer Pasha.

Dr. SWENSSON (Norway) spoke of the necessity of feeding the pregnant woman on the right foods. About 50 per cent. of the food taken was deficient in lime, phosphorus, and vitamins. Insufficient diet for the mother could cause a high rate of infant mortality. The diet should contain milk, vegetables, fruit, and bread. These were necessities. There were no maternity clinics in Norway.

Dr. MARIE UGON (Montevideo) referred to the causes of maternal mortality that were common to all countries, and enumerated the attempts to combat these in Uruguay. Among social causes she placed the abandoning of the pregnant woman and its consequences, and also prostitution, both officially recognized and clandestine. Among pathological causes she placed deliberate abortion, venereal disease, hepatic, nephritic, or cardiac complications, and infectious diseases. The social causes were combated by attempting to protect the girl mother, and by hospital treatment in any stage of gestation provided officially and freely. A system of secret admission had been adopted. Every pregnant woman was allowed to withhold her name, which she handed in a sealed envelope to the director. This was returned to her on her discharge, and only opened in case of her death. Investigation of paternity was carried out by the legal adviser of l'Assistance Publique. Attempts were made to put down the white slave traffic, but the official regulation of prostitution made this difficult. Deliberate abortion was punishable under the law. She laid very great stress on metritis. The story of metritis needed rewriting. In her opinion an insidious or latent metritis acquired a special virulence during confinement. In her polyclinic the genital organs of all pregnant women were examined. Every metritis found was actively treated. Gonococcal metritis was not proved bacteriologically, but was highly dangerous. In order to prevent eclampsia maternal canteens were provided where suitable food was given—an important matter in a country where meat formed a staple article of diet. She advocated the improvement of women's education, especially in sex hygiene, and was herself promoting a plan with this object.

A few other communications were received and taken as read.

British Medical Journal.

SATURDAY, AUGUST 2ND, 1924.

TEN YEARS.

A certain number of people are disposed to write down the late war as ancient history, but there cannot be many thoughtful individuals who really regard it as no longer of any but academic interest. It may seldom be discussed in its more personal and intimate details, but it is still an active factor in the mental lives of most of us, as also in the physical existence of everyone. This is inevitable. The great war was less a war than a cataclysm, and one whose social and economic effects must be felt not merely by the present generation but by many generations to come.

In two days it will be exactly ten years since Great Britain came to her fateful decision to oppose the Germans, and it is already ten years since the Germans first evidenced their contempt for civilized conventions by sending troops across the French frontier twenty-four hours before war had been declared against France. How quickly the storm gathered and broke was amazing at the time, and is hardly less amazing when one looks back on it to-day. On the second of August ten years ago many officials of the British Medical Association were still at Aberdeen, and hundreds of its members had only just reached their homes after a meeting during which there had been nothing unusual except the fact that several German-speaking medical men had not arrived to read their promised papers, and one Austrian professor of much distinction had left hurriedly on the ground that his country was at loggerheads with Serbia. Less than twenty-four hours later a truly kaleidoscopic change had taken place. All Great Britain was agog with excitement as to whether or not this country would have to take part in a great European war, and scores of medical men were quietly struggling with the problem of what they should do with their practices if there arrived the orders that seemed not unlikely, and which, in fact, most of them did receive less than twelve hours later. Some, indeed, had already had to reach a decision, for the fleet was mobilized before the German response to the British ultimatum was received, and the Royal Naval Reserve, which included a good many medical men and medical students, was called up simultaneously. By the fifth of the month nearly all Territorial medical officers and those belonging to the Special Reserve had received definite orders, and by the evening of the same day many had already reported themselves for duty at camps and elsewhere. Some, indeed, received warning at the camps, for sundry Territorial Divisions had recently assembled for the annual training.

How largely the medical profession was thus instantly and inevitably affected by the outbreak of war will be clear when it is remembered that, apart from battalion medical officers, the Territorial Force included the officers of over fifty field ambulances. On the same day the twenty-four Territorial general hospitals at home, and fourteen clearing hospitals, received instructions to mobilize, and at least one of the former had begun to erect its buildings by the following morning. Within less than a week of the time at which the scientific proceedings at Aberdeen came to an end, dozens of those who had taken an active part therein had put on the military uniforms which in many cases they were not to doff for five weary years; others had joined the Navy, which was the first to give temporary commissions, and still more had sent in their names to the War Office as ready to serve with the troops if required. It may be added, in fact, that a good many medical men, whose outlook had hitherto been purely civilian, had in the same period practically taken the field. For the Expeditionary Force began to land in France on August 9th, and of the 400 or 450 medical men which it included many were civilians. It was part of the pre-war plans of the Army Council to employ a considerable proportion of these in all medical units assigned in advance to the Expeditionary Force. Apart from all these the staffs of the civilian general hospitals in most of the greater towns had co-operated with the lay authorities in placing beds at the disposition of the War Office should they be needed, and great numbers of medical men were assisting in the provision, by the Red Cross and St. John Ambulance Association, and by many private persons, of hospitals in various parts of the country. Simultaneously there was great bestirring among medical men specializing in sanitary science. The formation of large Territorial camps, on ground not previously devoted to any military purpose, called for much work of this order, and a large proportion of the officers belonging to the sanitary division of the Territorial Force held more or less important civil appointments which it was exceedingly difficult for them to abandon at a moment's notice. Fortunately they were not called on to do so forthwith, and meanwhile events had already revealed that field sanitation and the sanitation of towns and rural areas stood far apart in matters of detail, though not of principle.

Even more remarkable than the sudden change of outlook was the prescience shown by the medical profession in the matter of the needs that the new outlook was likely to create, and the promptitude with which it prepared to meet them. Even before the hour at which war had been actually declared, the medical profession at Southampton had held a meeting wherein it was resolved that home-staying members of the profession would act as substitutes of those who might join the colours, and thus save them as far as possible from financial loss; and in less than forty-eight hours the Exeter Division, besides holding a similar meeting, had taken steps to provide for that lack of medical assistance which it foresaw might arise in rural districts. The two towns mentioned were the first in the field in this connexion, but other areas showed no backwardness. Long before the completion of the landing in France practically all Divisions of the British Medical Association had organized meetings of the profession at which almost identical resolutions were passed, and at many of these it was also agreed to give gratuitous medical attendance to the necessitous cases and families of recruits and others called up for military duty. Meanwhile, connected work was being pursued with great activity at the headquarters of the Association. By the time in question it had already secured a promise from the Government that the horses and motor cars of rural practitioners should not be commandeered, as well as a promise of privileges, if required, in respect of supplies of petrol. It had also prepared lists of retired medical men and others willing to fill gaps left in rural areas by medical men who had been called

up, and had provisionally arranged with the Government to co-operate in the recruiting of medical men if required. In this way it prepared the ground for the Central Medical War Committee, which later on played so important a part, and which in its final form should be regarded as having first blossomed in the Metropolitan Counties Branch of the Association.

The BRITISH MEDICAL JOURNAL, it is satisfactory to remark, also showed prescience, more particularly by urging that the offers of small yachts and other like vessels for use as hospital ships should not be accepted, as they were likely to prove unsatisfactory from all points of view; by endeavouring to secure the acceptance of antityphoid inoculation; and by indicating that, although there would doubtless be scope for the work of all expert surgeons, the primary need of the army would be for men able and willing to take to any kind of army medical work, either at home or abroad, which the needs of the moment might require. In short, within ten or twelve days of the termination of the Annual Meeting of 1914 the whole scaffolding of the medical arrangements of the war had been erected, and there stood to the credit of the medical profession achievements which were only dwarfed by the greatness and continuity of its efforts during the following long years.

The first fortnight of August, 1914, is, in fact, a period on which the medical profession as a whole can look back with satisfaction, but not as individuals. In common with vast numbers of Great Britain's citizens medical men saw their sons maimed or killed, and their daughters bereft for the most part of any real chance of happy marriage; and they are still suffering financially, not only from heavy taxation, but unfortunately also, in the case of many Territorial officers, from inability to regain to the full the practices they formerly conducted. Likewise, very many of us lost much esteemed professional friends, and if any reminder was needed one of the events of the now concluded Annual Meeting at Bradford provided it. This was the handing over to the President of the illuminated missal containing the names of members of the Association who died in the service of the country. "Mort pour la patrie" is in France considered the finest epitaph a man can have. This record provides for 574 of our fellow members, and we add for each of them the old Greek blessing to the dead:

γαῖαν ἔχοις ἐλαφράν.

THE INSURANCE SYSTEM DEBATE.

IT may perhaps come as a surprise to some sections of the public that at the discussion in the Section of Medical Sociology at Bradford (reported at p. 167) on the question "Has the National Health Insurance Act justified its existence?" the answer given was practically unanimous in the affirmative. The speakers were representative of nearly every section of the community connected directly or indirectly with the working of the Insurance Act. Insurance Committees, pharmacists, approved societies, insured persons male and female, medical consultants, general practitioners, hospital surgeons, lay administrators of voluntary hospitals, and medical officers of health, were all represented in the debate, and not a single speaker could be found to assert that the Insurance Act had not, on the whole, justified its existence.

Among other things it was claimed that insured persons now had much better facilities for obtaining treatment in the early stages of disease, and thus that serious complications were often averted; that the out-patient departments of hospitals were now less crowded with trivial cases than formerly, which allowed more time to be devoted to the more serious cases; that the number of in-patients requiring special treatment which could not well be given at home had increased; that general practitioners were now brought into more intimate contact with the consulting staffs of hospitals, which was helpful to both; that the Act had proved financially satisfactory to the panel practitioners, especially as compared with the old club system; that doctors generally had been led to take more interest in the preventive side of medicine, and that as a result the general health of the community had improved. It was said, too, that the forebodings of the voluntary hospitals that subscriptions to the hospital funds would fall off had been falsified by the facts, as, apart from the disturbing effects of the war, many hospitals were now receiving greater help in the way of subscriptions and donations than before the insurance system began. It was stated that the great bulk of insured persons were getting better medical advice and treatment than in pre-insurance days, and were, on the whole, grateful. It was claimed, too, that the establishment of Panel, Medical Benefit, and Pharmaceutical Committees as properly organized professional bodies, and the establishment of Insurance Committees, had brought about a greater public and professional interest in general health problems, and thus indirectly had stimulated the health authorities to greater activity, though the Insurance Committees had not used the powers conferred by the Insurance Act as extensively as they might perhaps have been justified in doing. It was further shown that the tax on the financial resources of the insured caused by sickness had been to some extent removed, that sickness had been to a far less degree a disabling economic handicap on the working classes, and that in this way the insurance system had led to a continuous improvement in their environment. On these and other grounds the claim was made that the National Insurance Act had fully justified its existence.

Nevertheless, in spite of this paean of praise, one cannot read the report of the proceedings without being struck by the strongly critical spirit manifested. Many of the speakers did not confine themselves to the strict subject of debate—namely, "Has the Insurance Act justified its existence?"—and the definite answer "Yes" was qualified by the addition that the scheme might and ought to have been more satisfactory than it is. In some cases the praise was mainly for the general principle of insurance against sickness embodied in the Insurance Act. But it is worthy of note that even this modified praise is an advance from the attitude taken at the inception of the insurance scheme by a considerable number of persons. At that time there was a fairly widespread objection against any form of what was called "state interference between the family doctor and his patients." Much less has been heard of this idea recently—largely, no doubt, because the principle of "free choice of doctor," fought for all along by the British Medical Association and recently extended by the Ministry of Health, has had the effect of removing some of the grounds for this objection. It is recognized that any form of public medical service must have interfered with previous arrangements; and that it was high time that there should be some interference by a properly constituted authority with the former degraded club system from which the medical profession seemed unable to escape. In spite, however, of the strong criticism of the

details of the Act, it may fairly be taken that the speakers in the Section of Medical Sociology, widely representative as they were of the community, were strongly of opinion that the principle of self-help embodied in the national insurance against sickness has justified its claim to be preferred to a system of medical doles which would be involved in any public medical service entirely financed and managed by the State itself.

It was only to be expected in any debate about national health insurance that numerous suggestions for improving the Acts should be put forward. The subject of the payment of panel practitioners was purposely excluded from debate, but numerous suggestions were made for widening the range of services now provided for the insured, and though many of these suggestions were excellent in themselves the difficulty of financing any great extension of the services hardly seemed to be fully realized. It cannot be too often repeated that the national health insurance scheme is in the nature of a business proposition, and as such should be self-supporting. No one can doubt that a complete medical service should include in-patient and out-patient hospital treatment and the services of consultants and specialists of every section of the medical and dental professions. But the objection at once arises, Who is to pay for all this? The present subscriptions of employers and employed will certainly not suffice, and neither of these classes would be likely to agree to the considerable increase of their contributions which would be necessary if national insurance is to give these extra services and continue to pay its way. An alternative would be a very large annual and permanent contribution by the State; neither the House of Commons nor the Treasury would be likely to approve this policy. Moreover, it seems likely that the voluntary hospitals would raise objections against the State control that would naturally follow any considerable State subsidy. These are, however, questions that will be suitable for consideration by the Royal Commission. Meantime the debate in the Section of Medical Sociology has brought out very clearly the general feeling that the National Health Insurance Act has not only justified its existence but its continuation; that anything like scrapping the system would be strongly opposed; and, further, that it should be extended along its present lines as far as financial and other considerations allow.

It is possible, if not probable, that the question will be raised, "How far does the opinion of the Section of Medical Sociology represent the general opinion of panel practitioners and of approved societies throughout the country?" None of the speakers, of course, were directly elected representatives for the purpose of this debate; but from all the information obtainable it may be assumed that neither panel practitioners nor approved societies in general would entertain for one moment the idea of replacing the Insurance Act by any other system yet devised, however much they may complain about the shortcomings of the service or the worrying administrative details with which officialdom has surrounded it.

The King has appointed Sir Harold J. Stiles, K.B.E., LL.D., Regius Professor of Clinical Surgery in the University of Edinburgh, to be one of the Honorary Surgeons to His Majesty in Scotland, in succession to Sir William Macewen, C.B., F.R.S., M.D., deceased.

THE CARE OF CRIPPLED CHILDREN.

Since the beginning of the century which is now approaching the end of its first quarter there has been developed very quietly and unostentatiously an organization, which is now on the way to become national, for treating and caring for crippled children, for preventing crippling diseases, and mitigating their evil effects. The country owes it to two people—Sir Robert Jones and Miss A. G. Hunt, R.R.C. The combination is typical science: and surgical skill in the one, and wise management and good nursing in the other. Miss Hunt had established a country home for children at Baschurch in Shropshire, to which county her family belongs, mainly with the idea of bracing up children to undergo another operation. An awkward staircase and insistent demands to take more patients led to putting most of them to live in a lean-to, with excursions into the sun outside when it shone. Some of the children improved so much that the intended operation became unnecessary. At this stage Miss Hunt became a patient, and remained the friend, of Sir Robert Jones. Both had the happy knack of infecting others with their own enthusiasm, and before very long a number of orthopaedic surgeons arranged to visit Baschurch periodically to advise and operate. The next step, if we remember rightly, was the establishment in various parts of Shropshire, within reach of Baschurch, of centres chiefly for patients who had been treated at Baschurch, but to which parents could take crippled or deformed children for general advice as to what they could best do. Later on Baschurch Hospital was removed to larger premises in Oswestry, where it is now carrying on a great work; more important still, the principle by which it is inspired has been grasped in other counties. There is the Wingfield Orthopaedic Hospital at Headington, near Oxford, established mainly through the exertions of Mr. G. R. Girdlestone, F.R.C.S.; it has out-clinics in Oxfordshire, Berkshire, and Buckinghamshire, as has also the cripples' hospital established in Stoke-on-Trent, with some forty beds. In Hertfordshire there are ten clinics, which are visited by Mr. Higgs, and to which school children and infants are sent for treatment by school medical officers, welfare centres, and by their own doctors; if operation is deemed necessary they are sent to a hospital in London. There are also the Ethel Hedley Hospital, Windermere, and the Woodlands Hospital, Birmingham. The Oswestry Hospital has extended its clinics to Chester and Herefordshire; after-care schemes are operating at Nottingham in connexion with the Staffordshire Orthopaedic Hospital at Biddulph, and clinics are about to be established at Bath (see page 151 of our last issue), Plymouth, Wrexham, Oldham and other places in Lancashire, and in Derbyshire. The Ethel Hedley Hospital at Windermere now has seven out-clinics in Cumberland, North Lancashire, and Westmorland, with approximately 550 patients. The Birmingham Cripples' Union, founded two years ago, is well equipped and officered, and has a convalescent school for tuberculous children, where they are taught various trades, among others pottery; Mr. Naughton Dunn and Mr. Wilson Stuart hold a clinic fortnightly at the central office. But we cannot profess to give a complete list, which will be found in a new publication—the *Cripples' Journal*—which is to be published quarterly. Its aim is to stimulate public interest, to advise on the establishment and maintenance of new centres, and to furnish information to workers in this field. The first number contains a short article by Sir Robert Jones, in which, without minimizing the difficulties ahead, he writes hopefully of the future; a paper on gymnastics and orthopaedic treatment by Mr. McCrae Aitken; an account of the New England Peabody Home for Crippled Children, started on a small scale in 1894 and now doing an enormous amount of work at its own country hospital; and the beginning of a history of

Baschurch by Miss Hunt. The journal is published by the Shropshire Orthopaedic Hospital, Oswestry, and copies can be obtained post free from that institution for 1s. 3d.

THE SAFEGUARDING OF MILK.

THE Ministry of Agriculture has at its disposal a considerable annual sum for the development of agricultural research and education. A portion of this sum, amounting approximately to £100,000, is used for annual grants in aid of fundamental and continuing research work carried out at agricultural research institutes, each dealing with a special subject, such as soils, plant diseases, fruit growing, and dairying. In order to make the results available for farmers the Ministry employs a number of specialist advisory officers—entomologists, mycologists, chemists, economists, and veterinarians—who are attached to university departments of agriculture and to agricultural colleges. The county councils have also appointed agricultural organizers and county agricultural staffs. Lectures are given by the various members of these several staffs to students in agricultural colleges, farm students, and to audiences of farmers and farm workers; recently, in co-operation with the National Farmers' Union, addresses have been given at meetings of branches of that union by those engaged in research work at the different institutes. The Ministry has published a large series of leaflets with which many of our readers must be familiar, and also a book by Mr. V. E. Wilkins entitled *Agricultural Research and the Farmer*, which gave a summary account of practically the whole of the agricultural researches in progress. The Ministry has now begun the publication of a series of monographs treating the various subjects in greater detail than was possible in Mr. Wilkins's book. The first of these monographs is entitled *Studies Concerning the Handling of Milk*.[1] It has been compiled by Dr. Stenhouse Williams and the staff of the National Institute for Research in Dairying at Reading. This institute, which began work on a small scale in 1911, has secured a large capital sum, partly from the Treasury and partly from public donations, and has been able to provide itself with new buildings and a farm of its own, where its work will continue and develop under the best conditions. It is supported also by the Ministry of Health and the Medical Research Council, as well as by the Royal Agricultural Society of England and the dairy industry. The monograph treats in detail, but with as little use of technical terms as possible, of nearly all the points to which attention must be given in the production of clean and wholesome milk. There is a discussion on farm conditions, and advice is given as to the relatively simple precautions which, when the staff of a farm is well taught, can ensure a wholesome milk. "Certified milk" must be bottled at the farm from cows which do not react to the tuberculin test and are subject to veterinary inspection. It can be supplied in country places at prices no higher than those charged for ordinary milk, and even in great towns has made its position, and within limits set by its higher price is assured of a market. The future of "Grade A (tuberculin tested) milk" is not yet, it is said, clear. In Reading, where it was first put upon the market at the beginning of 1922, the sales have gone up greatly, and in Newcastle also considerable quantities are sold. It has the great advantage that its price is not more than about 1d. a quart over that of ordinary milk. The poorer classes have been found willing to buy it chiefly because it keeps much better than the milk to which they have been accustomed. "Grade A milk," which can be sent in sealed churns to be bottled at a dealer's premises, is obtained from cows which are not subject to the tuberculin test, but are submitted to regular veterinary inspection. It ought to keep sweet as long as "Grade A (tuberculin tested) milk," but it has not yet been long enough on the market to gauge the probability of its eventually becoming commercially successful. The monograph also contains some notes on cheese. It is the intention of the Ministry to provide funds to the agricultural colleges for the promotion of work similar to that which is being done at the National Institute at Reading. Though the monograph is primarily addressed to dairy farmers, it gives an account so complete and yet so succinct of the present position of the measures advised to be taken to ensure the purity of milk that it will, we believe, interest many medical readers.

[1] London: H.M. Stationery Office. Price 1s. net, post free.

MINERS' PHTHISIS.

THE term "miners' phthisis" is used loosely to denote silicosis, which is a form of industrial pneumonoconiosis, and also silicosis associated with tuberculosis. The boundary line between these two conditions is not distinct, and the nature of the association between silicosis, an inflammation due to a mineral dust, and tuberculosis, a bacillary infection, has not hitherto been satisfactorily determined. Mavrogordato pointed out in 1922 that the early stages of miners' phthisis can be produced by silica alone, and there is abundant evidence that the silicotic lung is more liable to tuberculosis than any other form of pneumonoconiosis. In the same year Gye and Kettle showed that subcutaneous injections of a mixture of silica and tubercle bacilli resulted in the temporary protection of the bacilli, so that they proliferated freely in the area of coagulation necrosis due to the silica. E. H. Kettle[1] has now proceeded further along this line of investigation, and has performed a series of experiments with a view to determining the nature of the association between silicosis and tuberculosis. He finds that if localized inflammatory lesions are produced in the subcutaneous tissues of mice and rabbits, and intravenous injections of tubercle bacilli are subsequently given, the greater vascularity of the inflammatory areas renders them more liable to infection than normal connective tissue. The inflammatory lesions themselves do not appear to be in any degree more favourable to the growth of tubercle bacilli than the uninjured tissues, except when the inflammatory agent is silica, when the tubercle bacilli proliferate freely in the lesions, and produce in susceptible animals typical tuberculous foci. This occurs in spite of the fact that the inflammatory reaction to silica is usually much less than in the case of other substances employed, such as calcium chloride and turpentine. There would, therefore, appear to be something specific in the action of this agent, and it is suggested that cell protoplasm containing silica, though apparently uninjured otherwise, may be unable to deal with ingested bacilli. It is also possible that silica may have some specific influence on the growth of the tubercle bacilli.

[1] E. H. Kettle, *Brit. Journ. of Exp. Path.*, June, 1924, p. 158.

HOSPITALS IN AUSTRALIA.

THE Secretary of the Department of Public Health of Western Australia, Mr. F. J. Huelin, has written a report on the "State Hospital Service" of the State, dealing with its needs and making some suggestions for improvement. His intention is to give publicity to the shortcomings and needs of the hospitals, encourage discussion, and so, by helpful criticisms and suggestions of ways and means, improve the unfortunate position now existing, due to shortage of funds. It will be rather a shock to some to be told that a "State Hospital Service" can be inefficient owing to lack of funds. But Mr. Huelin states that there is: "A lack of modern equipment; antiquated and unsuitable buildings; absence of suitable cultural surroundings; a low standard of ward equipment and furnishings; and an entire lack of hospital provision in many districts." There are sixty-one hospitals in the State, costing £197,000

per annum; this cost is met by fees from patients as regards £52,000; subscriptions, donations, and special efforts, £19,000; payments for services rendered, £16,000; State funds the balance. The method of obtaining the funds for these hospitals suggested the inquiry as to their exact status. The report speaks of "department hospitals," "committee hospitals," and "intermediate hospitals," but does not define them. From information given to us by Australian doctors now in London it appears that the State provides mental and fever hospitals—that is, the department hospitals—but no general hospitals. There is nothing like our Poor Law hospital, but homes for the incurable are maintained by the State. The general hospitals are found in what Mr. Huelin calls "committee hospitals," and are just such hospitals as we know in England as voluntary hospitals; they are managed by independent committees appointed by the subscribers; they are recognized by the State, which subscribes to them through a "Charities Commission" or the equivalent. An officer of such commission visits the hospitals, just as the visitors of the King Edward's Fund do in London, and grants are made to the hospitals according to their needs. It is stated, however, that no control is exercised by the States over these hospitals to which the subventions are granted. The "intermediate hospitals" are institutions provided and maintained by various church and philanthropic organizations—for example, the Salvation Army, the Baptist, Congregational, Presbyterian, Roman, and Anglican Churches. They are described as glorified nursing homes, and meet the need of those who do not wish to enter the "committee hospitals" and cannot meet the higher charges of the ordinary nursing homes and private hospitals. For the most part the services of the medical staffs of the "committee hospitals" are given gratuitously; the report points out the anomaly that "at the present moment this class of patient receives its professional attention gratis, yet it still is expected to pay the hospital as much as it reasonably can." The cure of this, the writer thinks, lies in "freeing this class of case from the liability of fees." Caustic comment is made on the working hours of the nurses. "At most hospitals nurses are working 63 hours, sometimes 65 hours a week on day duty, and at many of the small hospitals up to 80 hours on night duty. . . . Reform means more expenditure . . . at the moment there is no money to spare, and it is difficult to see where the money is to come from." In considering where money is to be got from he rules out further State grants or municipal rating. "It is open to objection that income taxation is contributed by only 42,000 taxpayers out of a total number of 152,293 breadwinners earning or receiving income." Further, he points out (in italics), "the benefit to be derived by the individual from the public hospitals service is in inverse proportion to his income." His proposal for meeting the need is to establish a direct compulsory income levy for the hospitals, a levy of one penny in the pound upon all income in excess of £1 a week—that is, a compulsory contributory scheme. He says the cost would be little and the collection almost automatic. A single person with less pay than £3 15s. a week, and a married man with three or four children with £4 10s. or £5 a week, would be able to claim treatment free in virtue of his contributions; others would pay on a graduated scale. The report is of interest in showing the difficulties of other countries and other systems and the measures proposed for their remedy. It would be of interest if the Australian Branches of the British Medical Association would make a special inquiry and report on the working of this subsidized independent hospital system of their States and furnish first-hand evidence of its conditions and effects. Western Australia is a small State as measured by population; information from populous States would be valuable.

UNDERFEEDING OF COAL-MINERS' FAMILIES.

During the year 1922 many statements were made in the House of Commons and elsewhere to the effect that the available income of miners was insufficient to provide them and their families with the bare necessities of life. It was a period of grave industrial depression, and the difficulties of the mining class were aggravated by the fact that many families were burdened by debt, the aftermath of a strike, and therefore a wage which might have been sufficient to provide an adequate supply of food was often so much reduced as to be below subsistence level. It seemed clear that the economic position of coal-miners was far from fortunate, but little detailed evidence as to the precise domestic circumstances of the miners' families was available. The situation called for scientific inquiry, and, under the authority of the Medical Research Council, the Committee upon Quantitative Problems in Human Nutrition set on foot an investigation into the composition and physiological value of the diet available for miners' families, together with a comparison of the state of nutrition of miners' children with those of other children in the same district. The report on this work has just been published.[1] From the manner of its beginning the report, which covers some sixty pages, promises to be easy reading, but for all except trained statisticians disappointments lie ahead. A description in simple language of the food requirements of man and the way in which the energy-giving value of foodstuffs is determined leads on to a critical survey of the results obtained by such methods as those of indirect calorimetry. We need not call attention to the argument on which is based a provisional assessment of the needs of a coal-miner, but pass at once to a description of the methods adopted in the present inquiry, and the conclusions to which this inquiry has led. Five typical colliery districts were investigated by social workers in the winter of 1922-23—Durham, Derbyshire, Northumberland, Lancashire, and Stirlingshire. In every case the consent and co-operation of the housewives was obtained, and in most cases they rendered valuable assistance. Each study lasted a week, a period which might be thought to be too short to give a fair representation of the diet, in view of the fact that wages were uncertain. To the miner one week differs considerably from another, but over a large series of 140 families it is suggested that these differences may tend to balance. A special form of record book was prepared and used throughout; allowance was made for the food in hand at the beginning of the study and for that unconsumed at the end; the amount of edible matter lost in waste was determined; notes were kept of the meals taken at home by each member of the family. The section of the report which discusses the figures obtained by this investigation is most cautiously worded, and points to the many fallacies which beset deductions from the information gathered. Thus, in some families the amount of money allowed to the wife for the purchase of food and the general household expenses bore no constant relation to the wage earned. In spite of these and other reservations this inquiry has established that: "(1) During the period of observation (December, 1922, to March, 1923) the average consumption of food in one district—Derbyshire—was sufficient to maintain healthy existence, and in that district the children of the miners whose family diets were studied differed in respect of height and weight in no significant way from the average for the whole county. (2) That the diets of the four other districts, and in particular of the Durham area . . . fell somewhat below the standard generally accepted as satisfactory. In Durham the children measured were in respect of weight slightly below the

[1] Report on the Nutrition of Miners and their Families. Medical Research Council Special Report Series No. 87. London: H.M. Stationery Office. To be obtained through any bookseller (price 1s. 3d.).

county average." Thus we must accept the regrettable conclusion that in four out of five of the districts investigated the miners did not obtain the food necessary for their arduous work, and their families were ill nourished. It would seem that, apart from differences of income, variations of diet exist from district to district and within each district: for instance, in districts where bread is baked at home the diets were more satisfactory. Undoubtedly housewives could be helped to secure a more adequate return for their expenditure by a better dissemination of knowledge both of the economic and hygienic aspects of diet. Another interesting point of view, and one worth further exploration, was opened up by this investigation. Some evidence was obtained, but not sufficient to be absolutely conclusive, that the diets of families of which the mother had had training in domestic service were better than the average. This report will furnish material for thought not only to the physiologist, but also to the social worker and reformer.

WILLIAM HARVEY AND ST. BARTHOLOMEW'S HOSPITAL.

Those familiar with Sir D'Arcy Power's memoir of Harvey in the Masters of Medicine Series—and what British medical historian is not?—will turn with interest to his recent note on William Harvey and St. Bartholomew's Hospital.[1] In it he raises the question why, in 1602, on his return from Padua, Harvey attached himself to the hospital in Smithfield instead of returning to Cambridge; he was more interested in anatomy and experimental physiology than in bedside medicine, and might have pursued his favourite studies on the banks of the Cam rather than on those of the Thames. Although the suggestion is admittedly speculative, Sir D'Arcy Power thinks it possible that his friendship with the famous architect Inigo Jones, who was baptized in the church of St. Bartholomew-the-Less, began at Padua. Whatever the reason, there is documentary evidence that Harvey applied for and obtained the reversion of the post of physician to the hospital in 1608, an appointment somewhat similar to that of assistant physician, for in the absence of the physician it involved the discharge of his duties without payment. He had, however, not to wait very long, for he became physician on October 14th, 1609, and with it obtained the right to rent a house within the hospital; this Harvey never did, and in 1626 his annual stipend of £25 was increased to £33 6s. 8d. in lieu of this privilege. About 1631 Harvey's duties as physician-in-ordinary to the King took him so much away from the hospital that Dr. Richard Andrewes was appointed to take on his work, being in 1633 made "an immediate physician" with an annual salary of £23 6s. 8d., and given £20 for his previous year's work while physician in reversion. During this last year Harvey presented to the court of governors sixteen rules for the regulation of hospital practice, several of which read rather curiously now as restricting the independent action of the surgeons; for example, "that every chirurgion shall follow the directions of the doctor in outward operations for inward causes for recovery of every patient under their several cares"; this was agreed to by the chirurgeons, who, however, protested against the overriding of their opinion by the doctor in the presence of the patient. At this time John Woodall, author of *The Surgeon's Mate* (1617), was one of Harvey's surgical colleagues. In 1634 Dr. Andrewes died, and Harvey ceased to be a regular attendant at the hospital, but it was not until 1643 that the last payment was made to him, and it was only in 1653 that Dr. (afterwards Sir John) Micklethwaite, who had been doing the work for some years, was formally elected physician.

[1] *St. Bartholomew's Hospital Reports*, 1924, lvii, 96-107 (with a plate of Harvey in his 62nd year).

A MUNICIPAL CONVALESCENT HOME FOR MOTHERS AND BABIES.

The first municipal convalescent home for mothers and babies in this country was officially opened on July 26th by Mr. Wheatley, Minister of Health. Fairley Grange, which is at Fawkham, Kent, was given to Bermondsey Borough Council a year ago by Dr. Alfred Salter, at that time M.P. for Bermondsey. The Minister, in his opening speech, spoke of the co-operative spirit which is beginning to characterize public life to-day. The fact that the ratepayers of Bermondsey had realized that a farthing rate was being well spent in providing convalescence for mothers who would not otherwise be able to take a holiday showed that they had realized it was the business of the community to attend to the affairs of its weaker members. The attitude of the Ministry of Health was sympathetic towards all schemes likely to further maternity and child welfare, which he considered to be the corner-stone of public health work to-day. In welcoming Mr. Wheatley, Mrs. Salter, the chairman of the Maternity and Child Welfare Committee, said that Bermondsey was proud of the fact that the maternal mortality per 1,000 births for last year was 1.37. Although the infantile mortality was still very high, 76, yet it was the lowest Bermondsey had reached. Ten years ago, before the first health visitor was appointed, it was 159. The home is a comfortable sixteenth century manor house standing in twenty-three acres of ground; it has all modern conveniences, and is well adapted to accommodate sixteen mothers and babies.

ANNUAL MEETING NOTES.

The Pathological Museum.

The Pathological Museum contained twenty-four series of exhibits covering a wide field, ranging from bottled specimens of morbid conditions to x-ray photographs, ancient skulls, and sepulchral vestiges. A special feature of the museum this year was the group of exhibits illustrating anthrax, a disease of singular importance in Bradford. Dr. F. W. Eurich had collected a series of water-colour representations of cutaneous anthrax and photographs of pustules; there were also photographs illustrating the opening, sorting, and carding of scheduled material; samples of suspicious, damaged, and blood-stained wool; photographs of the Government Disinfecting Station at Liverpool; and samples of wool before and after disinfection. The station was described and illustrated in our issue of December 3rd, 1921 (p. 952). The President of the Association, Mr. Basil Hall, exhibited a unique series of museum specimens illustrating malignant disease of the large bowel, each specimen being accompanied by a description of the patient's illness and after-history. Mr. Malins Smith had a number of microscopic preparations of *Entamoeba histolytica* and its cysts, some of them of peculiar historical interest, as they were prepared from the first cases of endemic amoebic dysentery discovered in this country. Mr. John Fraser's exhibit of tuberculous disease in bone excited a good deal of attention. He showed examples of encysted, infiltrating, hypertrophic, and atrophic bone tuberculosis, many of the preparations being accompanied by microphotographs portraying the minute pathology. Mr. W. E. M. Wardill contributed an exhibit illustrating a method of cystoscopy in the presence of blood and pus, and arranged to demonstrate his method in the museum on Thursday afternoon.

A heterogeneous collection of museum specimens of different morbid conditions was brought over from the pathological department of the University of Leeds. These elegantly mounted specimens represented recent additions to its museum. Professor Stewart showed some specimens

and microscope slides illustrating xanthoma and xanthosis. The museum occupied two well lighted rooms of the College, and provided a very instructive display.

The Close of the Representative Meeting.

In the Supplement this week we conclude the full report of the Annual Representative Meeting, of which the first three days' proceedings were reported in last week's Supplement. The agenda for the last day (Tuesday, July 22nd) included two items which might have provoked considerable controversy—the report on indirect advertising and that on the scale of salaries for public health appointments. That the first was accepted with general approval, subject to the reference to Council for reconsideration of two paragraphs, marked the successful termination of two years' work on a difficult subject. In spite of the difficult points of classification involved, and the modifications in the scale as passed last year, indicated by the Chairman of Council as the result of conversations with representatives of local authorities at the Ministry of Health, the questions raised on the latter subject were almost entirely devoid of criticism. This was a striking tribute to Dr. Bolam's personal work during the past twelve months in this connexion, and a signal mark of confidence from the Representative Body. The confidential nature of his communication would, in the natural course, have exposed it to even more drastic criticism than that raised by an ordinary report of completed negotiations. The reference for reconsideration of the paragraphs of the Central Ethical Committee's report dealing with signed communications to the press could hardly have been opposed by the Chairman of the Ethical Committee after Dr. Brackenbury's comment. The comparative absence of criticism of the rest of the statement of policy showed that, with this exception, the Ethical Committee had succeeded in expressing the general feeling of those who have the maintenance of high professional standards most at heart; but on this particular point there could be no doubt of the general desire for revision. How far a closer definition of what is legitimate and what is objectionable use of signed communications to the press may be possible remains to be seen. Dr. Fothergill's suggestion for collective pronouncements from Divisions and Branches on matters of public interest met with as little support as the original statement of the Committee. The discussion on the two motions directed to speeding up procedure in dealing with Important Notices should be of definite use if it has emphasized the need for prompt action in cases where delay is more often the result of ignoring than of following the rules of ethical procedure. The motion on advertisement of nursing homes, which had provoked considerable discussion in the Council, was adopted almost without comment. On the Public Health Report the motion to discourage acceptance of fees for consultations by whole-time public health officers was passed after a discussion which served at least to indicate a growing desire in each of the two branches of the profession to understand and appreciate the difficulties of the other. The Dartford motion on free choice of doctor for Poor Law patients supplied a new and interesting application of one of the cardinal points in the Association's general policy. The Birmingham motion on the Milk and Dairies Act and the Tuberculosis Order stressed the obligation of the medical profession in respect of public health. When the profession, through the Divisions of the Association, gives a clear lead in these matters the Council is in a far better position to urge the necessary action on whatever Government may be in power. Dr. Fothergill's motion for a reconsideration of the Medical Acts with a view to revision served as a reminder that general agreement on the desirability of reform is not an adequate substitute for definite action to secure such reform.

The Annual Representative Meeting closed with the usual votes of thanks, after dispatching a reasonably full agenda with singularly little friction, and with shorter sittings than usual. It is not often possible to say, as it can be said of the proceedings at Bradford, that practically every speech made at a Representative Meeting has been fully audible to all who paid reasonable attention. For the provision of a hall with good acoustic properties, and for the general excellence of the arrangements which smoothed the work of the meeting, those responsible fully deserved the cordial appreciation expressed by the representatives.

The Secretaries' Conference.

The Secretaries' Conference on the afternoon of July 23rd was, except in the matter of its interest and success, in striking contrast to that at Portsmouth last year. At Portsmouth discussion was introduced by special papers dealing with various aspects of an honorary secretary's work in different types of Division. At Bradford the Conference was asked to express an opinion on certain questions for the guidance of the Science and Organization Committees, and of the central office. The discussion, under the five minutes' rule, was characterized throughout by directness and a sense of responsibility, and suggested a definite advance in co-operation between the central and local bodies. Appreciation of the part played by the Library in the work of the Association, and of the efficient services of the librarian, was marked, and practical suggestions for improvement centrally and locally were favourably received. In general, it seemed to be felt that the utility of the Library was limited only by the demands of the members. The question of the organization of a golf competition, introduced last year by the Deputy Medical Secretary, received this year that respectful and considered attention which is its due. An expert committee was appointed to elaborate a scheme, and the Treasurer's generous offer of a cup for competition was accepted with enthusiasm. The idea of some suitable badge of office for Branch and Division presidents, chairmen, and secretaries met with considerable, though by no means unanimous, approval, and was referred to the Organization Committee for development. For the rest, the usual discussion of the comparative percentage figures of members and non-members of Divisions and Branches allowed those secretaries most burdened with accommodation addresses, home addresses, and the names of retired practitioners to lift their accustomed lament before a sympathetic audience. The debate on notifying local secretaries of arrears of subscriptions, with a view to saving lapses of membership, whilst it resulted in a suggestion for action on this line, left the members of the Conference with a vivid impression of the difficulties of the case and the laborious and fruitful work of the Financial Secretary in his most ungrateful task of collecting arrears. The Conference owed much of its undoubted success to the able and genial chairmanship of Dr. William Paterson, honorary secretary of the Willesden Division. Dr. Paterson's skill in dealing with an agenda paper which he had not previously studied with a view to the discharge of this particular function was such that the Conference refused to alter its procedure by electing its chairman for the next meeting in advance, mainly on the score that the present system produced results which could not be bettered. The absence of Dr. Garstang from this particular gathering, which his work has done so much to make an efficient part of the Association's machinery, was regretted most deeply by those who had the longest experience of his untiring interest in the perfection of local organization, and the secretaries followed the representatives in sympathizing with him in the illness which prevented his attendance at Bradford. A report of the Conference appears in this week's Supplement (p. 80).

England and Wales.

THE RURAL HOUSING PROBLEM.

DR. HERBERT JONES, in his annual report for 1923 on the Herefordshire Combined Districts, for which he is medical officer of health, discusses the problem of rural housing. He remarks that the rural point of view in this respect differs considerably from that in urban districts; the cost of the provision of a water supply and drainage disposal is much greater in a rural district, where, as a rule, a well must be sunk and in some cases special arrangements made to deal with the drainage of a single house. He suggests that if certain conditions in rural districts could be approximated to those in the urban, private enterprise in house building would be stimulated. Financial assistance from the State is required towards the construction of rural water supplies and sewage disposal work, and expert engineering advice in organizing such schemes is desirable. In few rural districts is there an official with the capacity of the engineer or surveyor in an urban district, so a rural district council is often reluctant to embark on an enterprise which entails at the outset an outside professional adviser. The cost of building could be reduced by mass production of building material and fittings, and by scientific organization of work, whereas State subsidies are a hindrance rather than a help, as they result in an increase of cost. A private individual who wishes to build a house for his own occupation, and for whom no subsidy is available, finds that he has to pay his share of the subsidies given to other people, and, in addition, his own house costs him considerably more than otherwise it would. About a quarter of the cottage houses in the combined districts are supplied with water from sources distant from the dwellings, and the task of achieving a proper standard of cleanliness is thus made difficult. The duty imposed on the rural district council of ensuring that each occupied house has within reasonable distance an adequate supply of wholesome water ought to be more thoroughly performed. Out of 91 samples of water examined during the year at the county council public health laboratory, 39 were found to be unfit for domestic consumption. In nearly all parts of the district dip wells provide the only source of supply for drinking purposes, and owing to the readiness with which they can be contaminated are a definite source of danger.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

A meeting of the council of King Edward's Hospital Fund for London was held on July 25th, with the Prince of Wales in the chair, to receive the report of the Management Committee dealing with the recommendations of the Ambulance Cases Disposal Committee, the need for additional voluntary hospital accommodation, and the bequests of the late Mr. and Mrs. Wells. The council approved a recommendation that when the annual grants were made consideration should be given to the question whether those hospitals which dealt with accidents or sudden illness occurring in public places provided a sufficiency of beds for their use, and a reasonably sufficient number of observation beds, to obviate transfer of patients to other institutions. The London County Council had agreed to represent to the police and ambulance authorities that no institution which was not equipped for the reception of serious cases of accident or illness should be retained on the list of ambulance hospitals, and that in drawing up this list the co-operation of the Ministry of Health would be sought in the case of infirmaries and of the King Edward's Hospital Fund in that of hospitals. The Management Committee considered that it should be represented to the Ministry of Health, with a view to early legislation or administrative action, that in the case of street accidents or sudden illness brought to Poor Law institutions, including transfer cases from the casualty department of a voluntary hospital, no question as to residence of the patient, site of the accident, or site of the transferring hospital should be raised prior to reception and treatment; that no such cases should be transferred to another institution if the patient's condition was likely to be prejudiced; that the charge for treatment in such cases should be a common metropolitan one; and that such patients should not be subject to any disability arising out of technical pauperization. On the general question of hospital accommodation it was reported that the replies to the interrogatories issued by the King's Fund at the request of the Voluntary Hospitals Commission were being received, and afforded evidence of the care the hospitals were devoting to the answers. The committee supported the suggestion that the Wells legacies, estimated at more than £200,000, should be used to assist the hospitals in the provision of additional accommodation, assistance towards schemes of improvement, and increased grants for maintenance. The adoption of the report, including the recommendations, was moved by Lord Stuart of Wortley, chairman of the Management Committee, seconded by Lord Revelstoke, the honorary treasurer and chairman of the Finance Committee, and carried unanimously.

The Prince of Wales read a message from the King approving the proposal to apply the recent legacies of Mr. and Mrs. Wells in the way suggested, and expressing his gratification that the Fund was in a position to afford this special assistance to the voluntary hospitals. The Prince also announced that the Regent of Abyssinia had presented £500 to the Fund. He drew attention to the great improvement in the finance of the voluntary hospital system; even in 1920, when the difficulties were greatest, London hospitals had an income of £2,400,000, as compared with £1,500,000 before the war. Since 1920 their income had increased to £2,850,000, without counting any of the money raised by the combined appeal. A sum of £990,000 had been added to their endowments, and £1,100,000 had been received for extensions and improvements. Thus in London alone the voluntary hospitals had received in three years two and a half millions for special purposes, not including the additions to the investments of the King's Fund itself. There were now 1,600 more beds than before the war, and the extension schemes in hand or proposed would add a further thousand. This was an indication of vigorous life and growth in the voluntary hospital system. There were still some institutions in grave financial difficulty, and all the hospitals were faced with increased expenditure involved in new methods of diagnosis and treatment. Taken as a whole, however, they had been able to turn their attention more and more to extension. The bequests of Lord Mount Stephen and Sir Thomas Sutherland had increased the permanent income of the Fund by £40,000 a year, thus substantially assisting the hospitals to meet their current expenditure. The recommendations approved that day would enable immediate action to be taken to meet the need of additional accident beds, especially in South London. The Fund could not be a substitute for individual interest and individual effort, which was the source of life for each individual hospital. It had its own particular function, concerned with the needs of London as a whole and with the relative needs of the different districts.

BIRMINGHAM MEDICAL INSTITUTE.

For the past two years the committee of the Birmingham Medical Institute has been empowered to dispose of the original buildings in Edmund Street should a favourable opportunity arise. Negotiations which took place in the earlier part of last year came to naught, but later in the year an offer was made which was considered to be satisfactory, and was accepted by the committee and confirmed by a general meeting of members on August 22nd, 1923. On November 6th it was decided to purchase a building, susceptible of adaptation to the needs of the Institute, at 154, Great Charles Street, and in these premises the Institute is now housed. The Birmingham Medical Institute was originally founded and endowed through the generosity of a few members of the profession and their friends. It has since been maintained and administered by the unstinted work of a comparatively small number of medical men and women. Through the efforts of these workers the Institute now possesses a very comprehensive and extensive library of valuable old books, books of reference, recent and current medical literature, and all the leading British and foreign journals. The removal to new

premises provides the city with a building which should become the centre of its medical life. The accommodation is adequate, and the literary facilities and social amenities are extended and improved. It has been possible to reduce the annual subscription to the small sum of one guinea, and the committee hopes that medical practitioners in Birmingham and district will join in large numbers, and by so doing not only benefit themselves but enable the Institute to widen greatly its sphere of usefulness.

The Chair of Pathology, Welsh National School of Medicine.

Dr. Edgar Hartley Kettle has been appointed to the chair of pathology and bacteriology in the Welsh National School of Medicine, Cardiff, in succession to the late Professor Emrys-Roberts. Dr. Kettle graduated M.B., B.S.Lond. in 1907, and M.D. in 1910. He received his medical education at St. Mary's Hospital, London, and was appointed assistant pathologist there in 1907. In 1918 he became joint pathologist and lecturer in pathology at St. Mary's with Dr. B. H. (now Sir Bernard) Spilsbury, and, on the resignation of the latter, became pathologist, lecturer in pathology, and later director of the department of general and special pathology. Dr. Kettle is secretary of the International Association of Medical Museums, and the author of a monograph on *The Pathology of Tumours*.

Diagnosis and Treatment of Poliomyelitis in London.

At the meeting of the London County Council on July 29th a joint report was presented by the Education and Public Health Committees on the result of a survey of the position in London regarding the early diagnosis and notification of poliomyelitis and the facilities for treatment. Although poliomyelitis is a disease compulsorily notifiable, a number of cases, chiefly mild abortive cases in which there is no obvious paralysis, are not notified owing to the difficulty of recognition. The total number of cases of poliomyelitis notified in London during the last ten years has been 824. The committees have considered, in consultation with the Ministry of Health, the best steps to be taken to secure early diagnosis. The Ministry has under consideration the issue of a circular to metropolitan borough councils suggesting, among other things, that the councils should circularize general practitioners in their areas on the subject. An arrangement is also to be made whereby expert members of the medical staff of the county medical officer will be available to assist general practitioners in doubtful cases. Inquiry has also been made as to the provision available in London for the treatment of poliomyelitis and the resulting crippling conditions, and the subject has been considered at a conference of orthopaedic surgeons. Generally speaking, it is possible for the voluntary hospitals to provide institutional treatment for cases in the first stage (three to six months); the second stage (extending from eighteen months to two years) is the most difficult for the voluntary hospitals to cope with, and it is impossible for London hospitals, which deal in the main with patients in the acute stages of the disease, to set aside beds for such a long period. The third stage of the disease, characterized by various contractures and deformities, may call for operative treatment, and for this purpose again a period of prolonged residence in hospital should be provided. The two committees have come to the conclusion that it would be more satisfactory to deal with cases requiring operative treatment at the most suitably equipped London hospitals, and to transfer them later to other institutions. The Metropolitan Asylums Board provides treatment in its fever hospitals for cases of poliomyelitis in the early and acute stage, and the Board has intimated that it is prepared, if the Minister of Health agrees, to provide a certain amount of additional accommodation—fifty beds to begin with—in order to take in cases referred to it by the voluntary hospitals, child welfare organizations, and central or local public health departments. The greatest measure of co-operation is to be sought between the London County Council and the metropolitan borough councils in the selection of cases for treatment in the Board's institutions, particularly in view of the expert assistance to be provided by the Council in connexion with diagnosis. It is hoped by earlier diagnosis and more resolute treatment in the first stage to diminish the number of cases which reach the second and third stages; the possibilities of further accommodation in voluntary institutions for cases requiring prolonged treatment have been explored, and a certain number of new beds have been allotted for this purpose.

Scotland.

The Medical Curriculum.

The summer medical graduation in the University of Edinburgh was held in the McEwan Hall on July 25th, when Principal Sir Alfred Ewing presided over a large attendance; 27 graduates received the degree of M.D., while 211 students graduated M.B. and B.S. Dr. Barger, Professor of Chemistry in Relation to Medicine, delivered the address to the graduates on the medical curriculum. He dwelt upon the necessity for medical practitioners to render themselves acceptable to their patients, and to acquire a knowledge of more things than the mere scientific aspect of medicine. In this connexion he made a quotation from John Hall (1568): "Should you, at any time, be called a patient to see, and perceiving that thou art too great and ponderous for him; see that thou cast disdain aside, and think it no shame counsel to take. But rather with good-will get thee one or two expert men to help thee in thy need." The amount of knowledge which had to be imparted to the student kept continually increasing, but the limits of the medical curriculum could not be indefinitely enlarged. In Edinburgh the time limit had been extended to five years, and in some universities to six years; but a limit in that direction was imposed by economic considerations. Some subjects became of less importance as time went on, and might be cut down or cut out. An example of this was botany, which, although the oldest chair in the medical faculty, and at one time of paramount importance to the physician, who had to know his herbs at first hand, was now of less importance when drugs could be bought ready prepared. There was a need for more co-ordination, more co-operation, and the breaking down of watertight compartments between different subjects. He thought that the intensive teaching of subjects for a short time had a detrimental effect on the student. A suggestion had been made that an honours course should be instituted in the medical school of the University, which could be taken by exceptional students. Its reward would be an honours degree in medicine, and the medical school would be able to choose its teachers from such honours graduates. In this way a better utilization of scientific knowledge would be assured, and matters not essential for the general practitioner could be deleted from the curriculum which those intending to pursue general practice would require to take.

Edinburgh Hospital Appointments.

At a meeting of managers of the Edinburgh Royal Infirmary last week, the resignation of Mr. J. W. Dowden, F.R.C.S., from his position as surgeon in charge of wards in the Infirmary was announced. Mr. Dowden has been appointed surgeon to Chalmers Hospital in succession to Mr. Lewis Beesly, and assumes his new duties in October next.

Royal (Dick) Veterinary College.

The annual prizes in the Royal (Dick) Veterinary College, Edinburgh, were distributed on July 10th. Dr. Nasmyth, vice-chairman of the Board of Governors, who presided, referred to the very important relations which existed between research in veterinary pathology and the development of certain diseases in mankind, and spoke of the prospect of providing a chair in the subject of comparative pathology, which would deal with disease in plants, animals, and human beings. Principal Bradley, in calling upon the Lord Provost to present the prizes, spoke of the connexion between veterinary science and public health, and stated that, in this respect, the session which was just closing was noteworthy; there was now in existence what might be called a veterinary public health diploma, and in the past year more graduates had taken that diploma than in any

other year since it was instituted. During the last year, too, more appointments than during any previous session had been gained by graduates of the College.

CENTRAL MIDWIVES BOARD FOR SCOTLAND.

At a meeting of the Central Midwives Board for Scotland for the hearing of penal cases, Dr. James Haig Ferguson in the chair, a certified midwife was censured and admonished to adhere strictly to the rules in future in respect of delaying to send for medical assistance when required, and to notify the local supervising authority of a case of ophthalmia neonatorum. At the same session another certified midwife, for a similar offence, was severely censured.

Ireland.

FEES FOR OPERATIONS IN WORKHOUSE HOSPITALS.

AT a meeting of the governors of the Route District Hospital, co. Antrim, a letter was read from the Ministry of Home Affairs (Northern Ireland) stating that the Ministry had under consideration the question of fees payable to medical officers in connexion with operations in the district hospital, and had been much concerned at the present situation that existed between the Board of Guardians and the medical practitioners in regard to these fees. It appeared to the Ministry that, apart from other considerations, in the interest of the sick poor it was highly desirable that the present state of affairs should be brought to an end at once, and that an equitable scale should be put in force. With this object in view the Ministry had given further consideration to the question of devising a scale of fees based on the services rendered and with due regard to the fees payable in other areas. The Ministry had also had an opportunity of ascertaining informally the views of the medical practitioners concerned, and, after a careful review of the whole situation, the Ministry had devised a scale of fees on the following lines: a fee of two guineas for each operation, *plus* travelling expenses at the rate of 1s. per mile each way, with a further fee of one and a half guineas for each additional operation performed on the same day; the above fees to be increased by 50 per cent. in the case of night operations. The Ministry had made informal inquiries from the medical officers concerned, and it was understood that they would be prepared to accept this reduced scale subject to the condition that the scale was made retrospective as from October 17th last, the date of the Ministry's previous letters on the subject, and to the condition that the legal expenses incurred by Dr. Wallace in connexion with the action now pending against the Board of Guardians would be paid by the guardians. It appeared to the Ministry that the above proposals were reasonable and equitable, and in order to save further difficulty the Ministry suggested that the guardians should give effect to them as soon as possible. After a long discussion the Board decided to forward the following reply to the Ministry of Home Affairs:

(1) Under the proposed scale the fees for travelling expenses payable to Dr. Wallace would practically amount to three guineas for each operation at which he assisted, the amount sued for by him in his proceedings, and as the guardians have always considered this fee excessive for an assistant, they object to the scale as regards payment for the work sued for in the proceedings. (2) While they would not object, if other things are satisfactory, to the new scale being made retrospective to October 17th last, they consider that the request to pay the legal expenses incurred by Dr. Wallace is not equitable, inasmuch as the Board has been all along acting with the knowledge of the Ministry, which had approved of the existing scale; the defence to the action is that they could not depart from the scale so approved, and the doctors could have applied to have the same altered before bringing the action. We therefore respectfully request the Ministry to consider also our side of the question.

VITAL STATISTICS IN NORTHERN IRELAND.

During the quarter ended March 31st, 7,109 births were registered in Northern Ireland, equivalent to an annual birth rate of 22.1 per 1,000, and corresponding with a birth rate of 20.2 in the Irish Free State, 19.4 in England and Wales, and 22.7 in Scotland. The deaths registered during the quarter numbered 6,754, representing an annual rate of 21.0 per 1,000, and comparing with a death rate of 18.4 in the Irish Free State, 16.7 in England and Wales, and 12.1 in Scotland. The birth rate in the county boroughs and urban districts, which contain nearly half the population of Northern Ireland, was 26.5 per 1,000 of the population, the rate for the remainder of the country being 19.4. The death rate in these county boroughs and urban districts during the quarter was 21.9 per 1,000, and in the remainder of the country 21.4. The number of successful primary vaccinations registered during the quarter was 5,213.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

Anthrax Infection.—The Home Secretary said, on July 17th, that every possible step was being taken to guard various workers from the risk of anthrax. There was power under the Factory Acts to make regulations for the protection of persons employed in docks and other premises, and regulations were in force as to the handling of hides imported from Asia or Africa. Experience showed, however, that the most, if not the only, effective remedy consisted in the disinfection of the material; the most hopeful line of advance, therefore, would be to utilize wherever practicable the powers conferred by the Anthrax Convention Act, 1919, by providing for compulsory disinfection at the port of entry. Certain materials were already being compulsorily disinfected at the Government station at Liverpool, and the extension of this requirement to other materials, and in particular to East India wool, was under consideration.

Visitors to Mental Hospitals.—Sir John Marriott asked, on July 21st, whether the parents of a patient detained in a lunatic asylum were by regulation denied access to, or communication with, the patient if the latter's wife raised objection to such a communication. Mr. Wheatley said he was unaware of any such regulation. The question of allowing the friend or relative of a patient to visit, or of withholding communications addressed to, a patient was entirely within the discretion of the medical superintendent of the hospital, who would be guided by the opinion he would form as to whether such visits or communications would be likely to have a detrimental effect on the patient's mental condition.

Deaths from Vaccination.—In reply to Mr. Broad, on July 16th, the Minister of Health said that during 1923 the word "vaccination" or "vaccinia" occurred upon eleven death certificates received for England and Wales. In one case—that of a child aged one month—it was ascertained that vaccination had no connexion with the death, which was accordingly classified as due to heat-stroke. There were two other cases, in which the words did not occur upon the certificates, but which were ascertained upon inquiry to be due to vaccinia. Of the twelve deaths attributed to vaccinia, the condition was associated with septicaemia in two cases, with cellulitis in one case, and with convulsions in one case.

Feeding of Necessitous Children.—In Committee of Supply on the Education Estimates, on July 22nd, Dr. Haden Guest spoke on the feeding of necessitous children and the general question of the health of school children as affecting their work. He said that medical inspection showed about 10 per cent. of the children to be below par. He urged that an effort should be made to raise the physical standard of child life in the elementary schools to that now prevailing in the secondary schools. A comparatively small number would be affected, but it was part of the general slum problem, and so long as it was not treated more inefficiency was being created.

Fluctuations in Death Rate.—Mr. Wheatley stated, on July 23rd, in answer to Mr. Black, that the considerable variations in the death rate for 1923 as between area and area could not be assigned to specific causes, and, moreover, it was hazardous to attempt to draw inferences from the mortality rates for a single year. It was, however, a fact that in the case of both the urban and the rural areas with the highest rates for 1923 the sanitary conditions were not satisfactory. The Ministry of Health was giving attention to the subject.

Tuberculosis in Crofting Areas.—Mr. James Stewart (Parliamentary Under Secretary for Health for Scotland) acknowledges that the death rate from tuberculosis in various crofting areas is high, but does not admit, as was suggested by Mr. Mackenzie Livingstone on July 24th, that bad housing is the sole contributory cause. Considerable improvement had, he said, recently taken place in the housing conditions in many districts of the Highlands and Islands. He explained the facilities that are available to improve housing.

Slum Areas.—The following notice of motion has been put on the order paper of the House of Commons: "To call attention to the fact that the provisions of the Housing Bill now under consideration by Parliament do not apply to the clearance of unhealthy (slum) areas, which clearance is provided for only by a State grant of 50 per cent., whereas the bill now before Parliament provides for a State grant for housing of 60 per cent.; and to move that in the opinion of this House financial provision for the clearance of unhealthy (slum) areas should be made no less favourable than it is for other housing proposals under the present Housing Bill." The notice is signed by Dr. Haden Guest, Dr. Fremantle, Dr. Chapple, Mr. Somerville Hastings, Dr. J. H. Williams, and Lieut.-Colonel T. S. B. Williams. It is understood that the Minister of Health hopes, when the Housing Bill is in operation, to take up the matter of slums for separate legislative proposal. This would be next session.

Army Hospitals in India.—Lieut.-Colonel Sir Philip Richardson asked, on July 28th, what steps, if any, had been taken to secure an immediate and general improvement in the whole standard, comfort, and accommodation in the hospitals for British troops in India as the result of the investigations of the British Station Hospital Committee under the chairmanship of Surgeon-General Sir G. H. Makins in 1918. The Parliamentary Under Secretary to the India Office (Mr. Richards) replied that he had not received any report from India, but was having a statement prepared from the information in his possession and would supply a copy to the inquirer.

Registration of Nurses.—Dr. Chapple asked, on July 23rd, whether the Minister of Health had consulted the Law Officers of the Crown as to the position of nurses who, notwithstanding an order of the House giving them access to the State register of nurses, had been denied this right by reason of the fact that the interpretation of the Act by the Nursing Council gave them only one week within which to apply for registration. Mr. Wheatley replied that he was advised by the Law Officers that the view adopted by the General Nursing Council was the correct construction of the statute.

Pension Scheme for Nurses.—Mr. T. Atholl Robertson inquired, on July 16th, whether the Minister of Health could see his way to establish a pension scheme for nurses on a contributory basis with substantial aid from the State for all who had faithfully served public bodies, hospitals, and other institutions, and give assistance to the private nurse in a fair and reasonable way. Mr. Greenwood replied that the Minister of Health was in sympathy with the object, but was advised that the adoption of such a scheme would be wholly impracticable.

Tuberculous Cases among Ex-service Men.—On July 17th the Pensions Minister said that tuberculosis officers of local health authorities were not invited to express an opinion as to entitlement in cases which came before them solely for medical treatment. But arrangements had been made for such officers to sit as members of medical boards dealing with cases of that disease, and as such it became their duty to assist in arriving at the official decision on entitlement. The arrangements were made some eighteen months ago and had been found to work well. The Minister promised, on a request by Viscountess Astor, to take into account whether men suffering from tuberculosis and sent to sanatoriums could be kept there until they got their medical discharge.

Service Pensions Hospitals.—Mr. Roberts informed Mr. Darbishire, on July 24th, that the number of military hospitals on that date was 33, the number of occupied beds 6,249, and the number of vacant beds 1,188. The latter figure was temporarily in excess of the normal number, but certain hospitals no longer required were being vacated but were still partially occupied pending evacuation. The expenditure by the Ministry in maintaining these hospitals was estimated at £755,000 for the financial year.

Cost of Pensions Hospitals.—The Pensions Minister stated, on July 17th, that the average daily cost to the Ministry of Pensions per patient in hospital was approximately the same as the cost in hospitals administered for use by his department by voluntary bodies—namely, 8s. 8d. The Ministry maintained separate institutions only where that course was necessary to supplement otherwise existing accommodation, or to provide treatment for special war disabilities (for example neurasthenia) for which adequate treatment was not otherwise obtainable. The position was reviewed from time to time.

Notes in Brief.

Mr. Henderson states that the London police keep under observation shops exposing for sale contraceptive articles, and report to him as Home Secretary that there has not been any noticeable increase in the number of such establishments. But any action amounting to a breach of the peace would be the subject of legal proceedings. Asked what he meant by "any action amounting to a breach of the peace," Mr. Henderson replied he did not think, in the public interest, he should state that there.

In reply to a question, on July 16th, the Parliamentary Secretary to the Ministry of Health said that a very large number of persons had already applied to give evidence before the Royal Commission on Lunacy Law, and that such persons had been informed that their applications would receive consideration, and that if the Commission decided to hear evidence from them a further communication would be sent. The procedure of a Royal Commission was entirely within its own discretion.

Mr. Wheatley stated, on July 23rd, that the Expiring Laws Continuance Bill now before Parliament provided for the extension until December 31st, 1924, of the operation of the National Health Insurance (Prolongation of Insurance) Act.

The Minister of Health has stated, in reply to Dr. Fremantle, that a local inquiry had been made with regard to the proposal of the Middlesex County Council to convert Porter's Park, Shenley, Herts, into a mental hospital, and that the report was before him. The objections raised would be carefully considered.

Mr. Greenwood stated, on July 28th, that the Government could not this session undertake to introduce legislation on the subject of the sale of patent medicines.

The Minister of Health is aware of the high maternal mortality in Kensington as compared with Poplar and West Ham, and he has no doubt that this mortality occurs mainly among the poorer classes. The borough council has taken steps to improve and extend the midwifery facilities in the borough. The council has for some time past made arrangements for the supply of meals and milk to expectant mothers in necessitous cases.

Correspondence.

GOITRE.

SIR,—It would appear from the letters from Dr. Chalmers Watson (June 14th, p. 1071) and Mr. Cecil A. Joll (July 19th, p. 130) that differences of opinion do exist both in regard to the intestinal antiseptic action of such drugs as thymol, benzo-naphthol, salol, and dimol, and in regard to their effect in early cases of simple goitre. There are, in the first place, my own observations in Himalayan India, where I had to deal solely with endemic goitre, that such intestinal antiseptic drugs as thymol, beta-naphthol, and salol caused the diminution in size or the disappearance of a proportion of recent cases of goitre when regularly administered by myself or my assistants to out-patients over periods of several weeks. In my book I have given, at page 245, the actual results obtained in a sufficient number of such cases to justify the conclusion I have drawn as to the curative action of these drugs. Then there is the evidence provided by Dr. Messerli of Lausanne, who likewise was dealing with endemic goitre. Dr. Messerli studied the effects on "soft goitres" of benzo-naphthol, thymol, salol, and creosote. His observations were controlled by Dr. Brennecke of Berne; they were carried out under experimental conditions, the patients being kept under observation for some time prior to the commencement of treatment in order to eliminate any possible error due to the influence of other factors. As a result of his inquiry he confirmed my observations in the Himalayas, and arrived at the conclusion that "continued disinfection of the intestine determines a gradual diminution in size of soft goitres." His thesis on this subject was awarded an "honourable mention" by the Academy of Medicine, Paris. Other Continental observers who, according to Messerli, have satisfied themselves of the beneficial action of benzo-naphthol in recent cases of endemic goitre are Professor Galli-Valerio and Drs. Guisan and Curebod. It seems, therefore, that in two of the greatest endemic zones of goitre in the world—the Himalayas and the Alps—the curative value of intestinal antiseptics has been demonstrated. Nor is evidence of their efficacy wanting in Great Britain. To go no further than the correspondence columns of this JOURNAL, one finds (May 12th, 1923, p. 835) the statement by Dr. D. J. Harries of Cardiff that he gets good results with kerol, and now never gives iodine. One finds also the statement by Dr. Hensleigh Walter (August 19th, 1922, p. 329) that in a district of Somerset "where endemic goitre is very prevalent and the water supply indifferent" he finds that "in the majority of early cases treatment [by an antiseptic of high germicidal efficiency and of low relative toxicity] extending over a period of from four to six weeks causes a complete disappearance of the swelling." Again, there is the experience of Mr. A. J. Walton at the London Hospital:

> He "investigated a series of out-patients and the results were very interesting. Twenty cases were treated with regular doses of the syrup of the iodide of iron and twenty with intestinal antiseptics alone. About 50 per cent. of each group were cured. If the two treatments were combined a further 40 per cent. were greatly benefited, thus supporting McCarrison's view that an excess of iodine may be insufficiently absorbed if intestinal sepsis be present."—*Lancet*, July 14th, 1923, p. 59.

On the other hand, we have Mr. Joll's experience, which has led him to conclude that intestinal antiseptic drugs "have no curative action whatever" on small recent parenchymatous goitres. Some of his cases not only grew noticeably while under this treatment, but several of them increased sufficiently in size to produce pressure symptoms calling for operative treatment. In Himalayan India I have not met with small recent parenchymatous goitres which grow so rapidly within the space of twelve months as to produce pressure phenomena; and it would seem that herein lies one of the differences between some of Mr. Joll's cases and mine. He states, however, that a few of his cases "diminished slightly in size" while under treatment by intestinal antiseptics, "but certainly not more than occasionally follows the use of such drugs as iodine, arsenic, etc." In some few cases, therefore, Mr. Joll has obtained results by the use of intestinal antiseptics comparable to,

although not better than, those which "occasionally follow the use of iodine." If his conclusion that intestinal antiseptics "have no curative action whatever" be accepted, then it might be inferred from the text of his letter that neither has iodine—an inference which would be contrary to the clinical experience of years. I do not contend that in the treatment of endemic goitre intestinal antiseptics give better results than iodine, which, as I have stated at page 107 of my book, is the most potent of all known remedies in the treatment of this disease. But I do contend that in my hands they have yielded results in Himalayan patients as good as iodine; they appear to have done so also in the hands of Messerli in Lausanne, of Walter in Somerset, of Harries in Cardiff, and of Walton in London. For me the fact that they have done so is of more etiological than therapeutical interest, as is the experience that no matter by what means the cure of endemic goitre is brought about—whether by iodine, by thyroid extract, by intestinal antiseptics, by soured milk, or by vaccines—the effect on the patients' metabolism is the same: the evidences of hypothyroidism which accompany the goitre diminish or disappear *pari passu* with the diminution in size or disappearance of the thyroid swelling. These considerations lead me to believe that it is not because intestinal antiseptics are not so efficient in their action in European patients as in Himalayan patients that Mr. Joll has failed to obtain results comparable to mine—for neither are they comparable to those of the other observers I have mentioned whose patients were European—but that it is more likely to be due to the fact that more than one type of thyroid swelling is included under the generic term of "simple goitre." I do not regard, and have never regarded, intestinal antiseptics as a panacea for goitre; even in regard to thymol in endemic goitre I have stated in my book that "the beneficial results of the drug are *often* very striking"; and, again, in my recent British Medical Association Lecture on "Goitre" (BRITISH MEDICAL JOURNAL, June 7th, 1924) that "intestinal antiseptics cause the disappearance of *a proportion* of cases of recent goitre." I hold these moderate estimates of the utility of intestinal antiseptic drugs to be well founded, and that in consequence of their action attention has been directed to one important way in which the thyroid gland may become deranged.—I am, etc.,

Eastbourne, July 20th. R. MCCARRISON.

COCAINE SUBSTITUTES.

SIR,—The very interesting account of the properties of local anaesthetics given by Dr. Copeland in your issue of July 12th must excite admiration for the care and patience displayed in his experiments. It is a pity that, in expressing his results, the author has allowed a lack of precision to detract from their scientific value. He does not sufficiently distinguish between the facts he has proved, and the inferences which, granted certain (tacit) assumptions, may be drawn from those facts. For example: he describes experiments to demonstrate the effect of certain drugs on the *efferent* fibres of the vagus. But he states his findings as though he had measured what is really the relevant matter—the effect on the *afferent* fibres: "Table III shows that holocaine, etc., . . . all give prolonged *anaesthesia* when brought into direct contact with nerve fibres." Are these two effects the same? At least as regards cocaine Professor W. E. Dixon has shown (*Journ. of Physiol.*, December, 1904) that they are very different.

Again, the convulsant effect of these drugs has, it seems, been assumed to be directly related to habit formation. Is this a fair assumption? It is excitement of the "emotional and relatively lower centres" that leads to narcomania. Have we any evidence that this is proportional to the power of producing convulsions?

Similarly, in the "conclusions" we read: "These experiments show that . . . (2) For the nose, cocaine and tutocain are alone useful." Surely the first criterion of usefulness of a local anaesthetic in this field is its power of producing anaesthesia when applied to the nasal mucosa. Dr. Copeland adduces no evidence at all on this point in his publication, and is clearly in doubt himself as regards tutocain. Further, reference to the *Proceedings* of the Royal Society of Medicine (Section of Laryngology, March, 1924) will discover a very considerable body of opinion that alypin, beta-eucaine, butyn, and possibly novocain and stovaine, in addition to the two drugs for which he claims a monopoly of utility, are "useful for the nose." Ischaemic power is admittedly of great importance in this region, and we must praise the ingenuity of Dr. Copeland's method for measuring it in animals. But the mode of administration, through the trephined frontal sinus, introduces at least one factor to render the surgical application of his findings uncertain. On this point direct clinical observation is possible: I have been using tutocain in my practice for three months, but cannot find any appreciable "shrinkage"—certainly nothing at all comparable to that produced by cocaine, and for which, *inter alia*, the latter is so valuable in rhinology. A statement such as that quoted seems regrettable, because likely, if taken by the clinical reader as it stands, to prejudice his estimation of the value of the experimental work.—I am, etc.,

Bristol, July 19th. E. WATSON-WILLIAMS.

*** We have referred the above letter to Dr. Copeland, who writes:

SIR,—I have read Dr. E. Watson-Williams's criticism of my paper. I did not use the words "efferent" and "afferent." I used the word "anaesthesia" to apply to loss of the power of conductivity of the cardiac fibres of the vagus: it is apparently to this expression that Dr. E. Watson-Williams takes exception.

Dr. E. Watson-Williams states: "Again, the convulsant effect of these drugs has, it seems, been assumed to be directly related to habit formation. Is this a fair assumption?" I think this criticism is unfortunate, as I did not assume this; nevertheless, I believe that drug addictions of this type are due to cortical stimulation, and that stimulation of the motor areas also involves effects on the emotions.

I agree that the first criterion of usefulness of a local anaesthetic is its power of producing anaesthesia—just as the first criterion of usefulness of an aeroplane is that it should fly. I showed that tutocain is more effective as a surface anaesthetic than novocain, and even novocain, the weakest surface anaesthetic, has proved "very efficient" in the hands of at least one eminent rhinologist.

I do not propose to analyse the medley of medical opinion as published in the *Proceedings* referred to, but they suggest that the most important property which should be possessed by a local anaesthetic for the main purposes of rhinology is shrinkage power, and also that no cocaine substitute then known had this power. My experimental observations on animals showed that tutocain gives better surface anaesthesia than novocain, is less toxic for laboratory animals than cocaine and butyn, and, in addition, differs from all other cocaine substitutes investigated in having some shrinkage power.

Dr. E. Watson-Williams objects to my experimental method, but does not suggest a better one. Yet it is possible that the quantitative method of testing shrinkage which I described may present a factor of less uncertainty than that of the "direct clinical" observations on which Dr. E. Watson-Williams places reliance. His three months' experience of tutocain has led to conclusions at variance with the findings of other clinicians after one year's experience of tutocain. Drs. Seiffert and Anthon[1] report that they have used tutocain for nearly one and a half years for nose work, and that, like cocaine, it causes local anaemia and shrinkage of the mucous membrane. These effects were quite definite, though less than those given by painting with cocaine. Dr. Riedel[2] states:

"We have used tutocain in our clinic for one year. . . . For diagnostic purposes, also for shrinkage of the mucous membrane and erectile tissue [*Schwellkörper*] of the nose 1/2 per cent. solution was quite enough. With it the mucous membrane shrinks and pales quite quickly."

I cannot explain the discrepancies of these "direct clinical" observations.—I am, etc.,

A. J. COPELAND.

Pharmacological Laboratory, Cambridge, July 26th.

[1] *Deut. med. Woch.*, 17, p. 538, April, 1924.
[2] *Muench. med. Woch.*, 24, p. 787, June, 1924.

POST-ANAESTHETIC VOMITING.

SIR,—I think it safe to say that all or the majority of surgeons regret to see their patients suffering from post-anaesthetic vomiting. Experience teaches that when patients do not vomit after operation they are in better case than when vomiting and retching occur. In the table published by Drs. Cave and Edwards (BRITISH MEDICAL JOURNAL, July 5th, p. 11), in 100 cases of anaesthesia (duration not stated) 45 had no vomiting and no nausea after operation. We may say vomiting makes the patient feel wretched, and, if too frequent, exhausts her. After abdominal operation it may cause the sutures to give. If persistent it induces or exaggerates acidosis: it causes a clamping of the liver capillaries—producing thus a distension of the gastric and intestinal capillaries, an engorgement which may result in rupture, with the oozing or pouring out of blood into the stomach and intestine with brown vomit or melaena. It is the prelude to so-called chloroform poisoning. By interfering with the blood flow through the gastric musculature, it induces atony of the stomach and gastric dilatation. Doubtless it affects the renal circulation, preventing the adequate excretion of non-protein nitrogenous bodies in the blood, and even causes structural changes.

A comparative study of "acidosis," especially in children, and of so-called chloroform poisoning (as yet unpublished), led me to the opinion that post-anaesthetic vomiting is due to a "catarrhal" state of the gastric mucosa. This may be determined by one of two causes, or by both acting together. First, there is the effect of the anaesthetic on the cells of the gastric mucosa; secondly, there is the anaesthetic state and the effect of this on the blood flow through the gastric mucosa and so through the liver. Whether the inhalation of an anaesthetic for a sufficient duration of time affects the gastric mucosa, causes a secretion of mucus and a change similar to that affecting the skin of such an animal as *Salamander maculosa* when poisoned with chloroform (changes which we can observe), I leave others to discuss; but that during prolonged anaesthesia, even in the Trendelenburg position, the blood flow through the stomach is impaired will be obvious. During general anaesthesia the general blood pressure falls. Thus the blood flow through the stomach and liver becomes diminished. Whether the blood flow through these organs becomes so diminished that an impairment of function, persisting for some time, is produced, is the second question I raise. I think it more than likely. In this respect we must remember that not only anaesthesia induced by inhalation, if sufficiently prolonged, is followed by vomiting, but that after spinal anaesthesia vomiting at times occurs.

The vomiting in this case, presumably, is not induced by the desirability of ridding the body of a poisonous product. But spinal anaesthesia also causes a fall in general blood pressure. The fall in general blood pressure in this case does not seem to arise from the drug affecting primarily the heart or the nerve centres which control the degree and the frequency of its systole, but by causing a paralysis of many peripheral structures (for example, lower limbs and abdominal wall), whereby the return of blood from the capillaries in such parts (limbs and abdomen) is not as good as in the normal. Thus in this case, too, the blood flow through the stomach and liver must be diminished. Is the resulting change in the gastric mucosa the cause of the post-spinal-anaesthesia vomiting? It would seem that it is; and this rather suggests that with inhalation anaesthesia the resulting vomiting is similarly induced. I put forward as far back as 1913 a similar explanation of the early vomiting of pregnancy.[1] I showed reason to believe the expanding uterus in the early months of pregnancy to be associated with a relaxation of the abdominal wall musculatures, necessarily occurring most at night (during sleep), with a concomitant impairment of blood flow through the gastric and hepatic capillaries. That explanation so far has received no consideration, but it fits in well with the considerations on post-anaesthetic vomiting here adduced, and that it is the explanation I have no doubt.

How, then, can it be expected that the use of such carminatives as oil of cloves, of peppermint, or of lavender should prevent post-anaesthetic vomiting? Drs. Cave and Edwards appear a little disappointed with their results. I congratulate them on their endeavour, but suggest, if I may, they consider, perhaps more in detail than they have, the anatomy of the vascular mechanism in the abdomen, the blood flow through the organs during anaesthesia, the effect of "complete" relaxation of the abdominal wall on this, and especially the general blood pressure. The state of organs depends before everything on the blood flow through them; obviously, if this falls below a certain level, the organs concerned must become impaired. And if the gastric mucosa becomes "impaired," what but vomiting can be expected?—I am, etc.,

Rugby, July 5th. R. H. PARAMORE, F.R.C.S.Eng.

[1] The Intra-abdominal Pressure in Pregnancy, *Proc. Roy. Soc. Med.*, Obstet. and Gyn. Sect., 1913, p. 299.

LYMPHATICOSTOMY IN PERITONITIS.

SIR,—The letter by Mr. D. A. Mitchell (BRITISH MEDICAL JOURNAL, July 5th, p. 36) prompts me to report a case in which lymphaticostomy was performed in the treatment of pneumococcal peritonitis.

The patient was a girl, aged 4 years. On February 20th, 1924, I opened the abdomen and evacuated a large quantity of pus. A drainage tube was placed in the pelvis through the lower end of the abdominal incision.

After operation improvement took place, both generally and locally, and continued for about a week, when the abdomen again became distended and painful and the pulse and temperature rose.

On March 5th the thoracic duct was exposed, ligatured, incised, and drained, as suggested by Costain.[1] No great difficulty was experienced in the operation and it resulted in an immediate and copious discharge of lymph. There followed a marked improvement in the patient's general condition. The distension and tenderness disappeared and the discharge of pus from the abdominal wound became much less. This improvement continued for five days, during which time a very free discharge of lymph was observed from the cervical wound, although the small drain had been removed from the opening into the duct.

It was then noticed that, although the abdominal condition appeared to be most satisfactory and the child was taking abundant nourishment by the mouth, she seemed to be getting weaker and to be losing weight rapidly. On March 14th, nine days after the lymphaticostomy had been performed, death took place. Lymph was discharged freely up till shortly before the child died. In the abdominal pus pneumococci (Type 2) were found. In lymph taken immediately on opening the duct no organisms were present.

From observation of this case alone the impression given was that the lymphaticostomy had a markedly beneficial effect on the course of the peritonitis, but that it seemed highly probable that the continued discharge of lymph from the thoracic duct was the ultimate determining cause of the patient's death. From a consideration of Costain's experiments on artificially produced peritonitis[1] and intestinal obstruction,[2] and from his report of a case of pneumococcal peritonitis,[1] and from the account of Edwards's case of puerperal peritonitis,[2] it is impossible to avoid accepting their conclusion that lymphaticostomy may be a life-saving procedure in such cases. The great importance of this must, as Mr. Mitchell points out, make a strong appeal to every surgeon.

The main difficulty seems to me to be what is going to happen to the patient if his duct fistula does not heal when his abdominal condition improves. If the discharge of lymph continues for more than a few days it is obvious that the loss of the essential food constituents must be a very serious matter. Costain states that a wound of the thoracic duct readily heals as a collateral circulation is established, and quotes in support of this the experimental work of Lee and the report of a case of drainage of the duct by Wilms.

In the cases reported by Costain and by Edwards, as also in the case reported by Mr. Cooke,[3] the lymph discharge appears to have stopped within a week after operation, while in my own case it persisted vigorously to the end.

It would be of great value to know if Costain's idea that a collateral lymph circulation takes place is really what occurs in every case, or whether it is possible that the circulation may become re-established in the duct by closure of the wound and by absorption of the ligature placed distally to the point of incision in the duct.—I am, etc.,

Aberdeen, July 6th. ALEX. MITCHELL.

[1] *Surg., Gynecol. and Obstet.*, March, 1923.
[2] Ibid., February, 1924.
[3] BRITISH MEDICAL JOURNAL, June 14th, 1924, p. 1048.

X-RAY INTERPRETATION.

SIR,—The Mackenzie Davidson Lecture by Sir Thomas Horder (BRITISH MEDICAL JOURNAL, July 19th, p. 89) is a handsome tribute to the value of radiology in diagnosis and treatment. It shows how radiology has altered and advanced our conceptions of disease. I should leave it at that and be grateful, had I not seen a paragraph in small type giving my own conclusions in a recent case. (The paragraph is correct but for one error: "iliac stasis" printed in mistake for "ileal stasis"—the correct term.)

Sir Thomas Horder accuses me of going beyond the legitimate limits of *x*-ray interpretation; yet my full report gives all the observed facts which led to, and justified, my conclusions. He objects to my diagnosis of "catarrh of the large intestine" and of "toxaemia." To take "catarrh" first: I have every reason for saying that persistent spasmodic narrowing is due to catarrh, for whenever this type of narrowing occurs the bowel wall feels thickened, and the pathologist finds, in the faeces and the blood, evidences of intestinal catarrh. As for "toxaemia": ileal stasis and intestinal catarrh produce toxaemia, and this is always confirmed by the pathologist who examines the blood and analyses the urine. As well deny the skilled oculist the right to diagnose that the characteristic retinitis he sees is due to albuminuria.

I am in constant collaboration with surgeons, pathologists, and clinicians; I take every opportunity of controlling my observations of patients by clinical and pathological reports and surgical operations. It is no longer true that the radiologist deals with the shadow rather than the substance, for he holds the viscera in his hands and grasps them; he moves them to and fro; he sees the splash of liquid in the stomach; later he may see the stomach close in upon its contents under the spell of his manipulations. His power of "seeing through" his patients enables him to palpate in the most purposeful manner to aid his diagnosis.—I am, etc.,

London, W.1, July 19th. ALFRED C. JORDAN.

A DEGREE IN PHARMACY IN THE FACULTY OF MEDICINE OF THE UNIVERSITY OF LONDON.

SIR,—At the meeting of the Senate of the University of London on July 23rd it was resolved to institute a new degree, to be called "Bachelor of Pharmacy in the Faculty of Medicine." The list of degrees in the Faculty of Medicine authorized by Statute 108 henceforth reads: "Bachelor and Doctor of Medicine; Bachelor and Master of Surgery; Bachelor of Dental Surgery; and Bachelor of Pharmacy."

The proposal to institute "a degree" in pharmacy originated with a request to that effect from the Pharmaceutical Society in February, 1923. This proposition was referred to the Committee of Medical Members of the Senate, who reported, as regards the title: "It seems preferable that the degree should be that of 'Bachelor of Science (Pharmacy).'" The recommendation was adopted (March, 1923) by the Academic Council, which consists chiefly of members of the Senate elected by the Faculties. A little later (June, 1923) the External Council, which consists chiefly of members of the Senate elected by Convocation, recommended "that a Bachelor of Science Degree in Pharmacy be instituted for external students." The Senate passed these recommendations and a subcommittee of the Academic Council was appointed to deal with the matter. This subcommittee recommended "that the new degree be called 'Bachelor of Science in Pharmacy,'" and suggested subjects and syllabuses. The Academic Council submitted the report of its subcommittee to the Board of the Faculty of Science for consideration and report. That board submitted a reasoned report (June 2nd, 1924) against the admission of the new degree in the Faculty of Science. The Academic Council thereupon recommended (June 16th, 1924) "that the new degree shall fall within the purview of the Faculty of Medicine," and referred the question to the Committee of Medical Members of the Senate, who recorded their agreement with the Academic Council.

The refusal of the Faculty of Science to accept the new degree, together with the fresh recommendation of the Academic Council and the opinion of the Committee of Medical Members, came before the External Council, under my chairmanship, on July 9th, and the Council on my suggestion passed unanimously this resolution: "That the question of the inclusion of the Degree in Pharmacy in the Faculty of Medicine be referred to the Faculty of Medicine for consideration and report." I moved this resolution at the Senate on July 16th, and argued that as it was now suggested that the degree should come into the Faculty of Medicine, that faculty should have the same opportunity of considering acceptance of the degree, or, if it thought fit, of refusing it admission, as had been enjoyed by the Faculty of Science. The Dean of the Faculty of Medicine from his seat upon the Senate opposed the reference to his own Faculty, on the ground that its membership was too large for useful consultation. Chiefly owing to this opposition by the titular head of the Faculty of Medicine, my motion was, very naturally, defeated, and, unless opposition is immediately manifest, the new degree will take a place on the statute book under the heading of "Degrees in Medicine," without the Faculty of Medicine having had any voice in the matter. Inasmuch as the statute (No. 108) regulating degrees in medicine has to be altered to admit the new degree, the consent of Convocation must be obtained. An opportunity will thereby be given to graduates to protest against the addition, but medical graduates, unfortunately, seldom attend meetings of Convocation.

The new degree is intended by its promoters, the Pharmaceutical Society, to be taken chiefly by dispensing chemists. Does our profession view with favour the creation of a degree which dispensing chemists who possess it may quite justifiably call a medical degree of the University of London? Conferment of this new degree upon the dispensing chemist cannot but increase the already considerable and unfair competition of the dispensing chemist with the doctor, and it must also debase the reputation of medical degrees generally of the University. I submit that the Faculty of Medicine would do well to insist in no uncertain way upon its wishes being at least consulted before the new degree comes into effective operation.—I am, etc.,

E. GRAHAM LITTLE,
Representative on the Senate of Medical and Surgical Graduates of Convocation.

London, July 28th.

Obituary.

EDMUND MOODY SMITH, M.D., C.M., D.P.H.,

Late M.O.H. York.

THE death, on July 23rd, of Dr. Edmund Smith, medical officer of health for the city of York, is regretted by all who knew him, and they were many, as a public health reformer of the first rank. He was taken ill about three years ago while acting as an examiner at Manchester for the Royal Sanitary Institute, and although after a long convalescence he recovered sufficiently to resume his duties it was not altogether a surprise to his friends to learn that he had resigned his office in May last.

Edmund Moody Smith was born in Leeds in 1864 and received his medical education at Edinburgh University, graduating M.B., C.M. in 1888, and M.D. in 1895, when his thesis on therapeutics earned for him the Milner-Fothergill gold medal. He obtained the D.P.H.Camb. in 1891, and in that year settled in practice in York. Although a busy practitioner he was strongly drawn to the preventive side of his profession, and in 1898 he became deputy medical officer of health for the city; two years later he was appointed the first whole-time officer.

The record of Edmund Smith's work in York during the past quarter of a century is in effect a record of public health reforms in that city. His persistence in advocating the abolition of privy-middens met with its reward, and York is now a water-carriage town and freed from typhoid fever previously endemic. His work in connexion with tuberculosis and in child welfare was characterized by the same patient persistence, and while never playing to the gallery he plodded along the track he had traced out as the right one, meeting difficulties with the firm intention of overcoming them, and succeeding in doing so. As a private practitioner he had earned the respect and regard of his medical brethren, and this must have been of immense help

to him when he became a public official. His election as president of the York Medical Society was sufficient evidence of his keen interest in the clinical side of his profession. He was an active member of the British Medical Association and of the Society of Medical Officers of Health, and had been president of the Yorkshire branch of the latter body. His contributions to public health literature were marked by sound common sense and an intimate knowledge of his subject, while his literary ability was of a high order. By his public health colleagues he will always be remembered as one whose knowledge and experience were at all times at their service, and many of the younger members of the service have cause to be grateful to him for wise counsel and timely advice.

Until ill health prevented, Edmund Smith was a constant attendant at medical and public health conferences and congresses, and by the calm logical presentation of his case he was able to influence debate in the right direction. He was never dogmatic, though he possessed the art of convincing to a remarkable degree. His career and the work he accomplished for the citizens of York can now be viewed with pride by all who were acquainted with them. Without blare of trumpets and without ostentation he carried on his task conscientiously and thoroughly to a successful issue and to the admiration of his fellow workers. It may be some consolation to his widow in her sorrow to know the high esteem and affectionate regard in which he was held by his medical colleagues.

WILLIAM ARNOLD EVANS, M.D.Lond., B.Sc.Vict., D.P.H.Camb.,

Formerly M.O.H. Bradford.

There were many medical officers of health and others present at the meeting of the Association in Bradford who received with sincere regret the announcement of the sudden death, on July 7th, while at work in his surgery, of Dr. Arnold Evans, who was medical officer of health for Bradford from 1890 until 1912. He was the son of the Rev. John Evans of Sheffield, and was born in that town in 1862; he received his early education at Silcoates School, Wakefield, and went afterwards to Owens College, Manchester. He took the diplomas of M.R.C.S.Eng. and L.S.A.Lond. in 1883, and graduated M.B.Lond. in 1884 and M.D. in 1888; he took the B.Sc.Vict. in 1904. In 1890 he obtained the D.P.H.Camb. After holding resident appointments in the Manchester Royal Infirmary, the Wolverhampton and Staffordshire General Hospital, where he acted as pathologist, and in the Monsall Fever Hospital, Manchester, he eventually settled in practice in Bradford at the time that the position of medical officer of health was held by Dr. James McClintock, who imbued him with a strong interest in public health. When Dr. McClintock resigned his appointment to become medical officer of health for Lanarkshire he thoroughly approved the action of the Bradford Corporation in selecting Dr. Evans as his successor.

During the years he held office Arnold Evans undertook a great deal of spade work, and many of the advanced public health activities upon which the Bradford Corporation has been engaged in recent years have only made possible by his painstaking preparatory labours. In 1894 he contributed to the British Medical Journal an account of his investigations into the prevalence of small-pox in Bradford, which stamped him as an epidemiologist of a high order. He came to the conclusion that the prevalence of the disease in the area immediately surrounding the small-pox hospital was due to aerial convection from the wards of the hospital, though we believe in recent years he had reason to modify his opinion in this respect. His investigations into what at the time was locally the burning question of back-to-back houses were a determining factor in the general condemnation of this type of dwelling, so dear to many in the northern counties. In many other matters the citizens of Bradford have good reason to be grateful to him for the public health reforms in which he was actively engaged. He was president of the Bradford Medico-Chirurgical Society, to whose proceedings he was a frequent contributor, and in 1898 was president of the Yorkshire branch of the Society of Medical Officers of Health. As a Fellow of the Royal Sanitary Institute, and for many years a member of the Board of Examiners, he took a prominent part in its affairs.

With the general practitioners in Bradford his relations were of the most cordial character, and in the public health service he was held in high esteem; he possessed the affectionate regard of the medical staff and of the public health staff of the corporation. In 1912 he resigned his appointment and a few years later started in private practice in Oakworth in the Brontë country, where he married and resumed his interest in public affairs by becoming an active and useful member of the urban district council. During his many years of residence in Bradford his sister kept his house, and many of his public health colleagues have very happy and pleasant memories of hospitality extended to them by Miss Evans, to whom, and to his widow, our sincere sympathy is extended.

Universities and Colleges.

UNIVERSITY OF OXFORD.

At a congregation held on July 23rd the degree of B.M. was conferred on E. H. Koerner and A. D. Dyson.

Theodore Williams Scholarships.

The following awards of Theodore Williams Scholarships are announced:

Scholarship in Human Anatomy (£50 for two years): Denis Hubert Brinton, New College. Scholarship in Physiology (£50 for two years): George Eric Macdonald, New College. Scholarship in Pathology (£60 for two years): Thomas Cecil Hunt, B.A., Magdalen College.

UNIVERSITY OF LONDON.

Meeting of Senate.

At a meeting of the Senate on July 23rd the Bethlem Royal Hospital was admitted as a school of the University in the Faculty of Medicine for the purpose of research in psychological medicine.

The resignation by Professor H. R. Kenwood of the Chadwick Chair of Hygiene at University College as from December next was accepted with regret and with an expression of appreciation of his long and valued services to the College and to the University.

Sir Wilmot P. Herringham, K.C.M.G., C.B., M.D., F.R.C.P., has been elected Chairman of the Committee of the Medical Members of the Senate for 1924–25.

The following candidates have been approved at the examinations indicated:

M.D.—Branch I (*Medicine*): J. A. Birrell, Florence R. Dingley, A. H. Douthwaite, J. N. Kerr (University Medal), R. C. Lightwood, Gladys M. Wauchope.
Branch IV (*Midwifery and Diseases of Women*): Janet K. Aitken, Edith K. Budden, C. M. Gwillim, Dorothy McNair, Kathleen H. Matthews.
Branch V (*State Medicine*): H. Shannon.
M.S.—Branch I (*Surgery*): G. Massie, A. D. Wright.
Branch IV (*Laryngology, Otology, and Rhinology*): V. E. Negus (University Medal).

University College.

The following awards have been made in the Faculty of Medical Sciences:

Bucknill Scholarship: J. R. Pierre; Epsom Scholarship: G. G. Gillam; Medical Entrance Exhibitions: A. S. Hatch and M. Levy; all continued for second year. Gold Medal for Anatomy (Senior Class): R. M. Sargent. Silver Medal for Anatomy (Junior Class): R. A. Nash. Silver Medal for Histology and Embryology: J. D. Ritchie. Gold Medal for Physiology (Senior Class): R. M. Sargent. Silver Medal for Physiology (Junior Class): F. Forty. Silver Medal for Pharmacology (General Course): H. Awrounin. Silver Medal for Organic and Applied Chemistry (General Course): Audrey Z. Baker.

London Hospital.

The Medical Unit.

Dr. A. W. M. Ellis has been appointed, as from October 1st, 1924, to the University Chair of Medicine tenable at the London Hospital Medical College. He was educated at Upper Canada College and at the University of Toronto. In 1908–9 he served as house-physician and house-surgeon in the Hospital for Sick Children, Toronto, and during 1909–10 he was resident pathologist at the Lakeside Hospital, Cleveland, Ohio, and demonstrator in pathology in the Western Reserve University Medical School. In 1910–11 he assisted in the teaching of pathological chemistry at the University of Toronto. From 1911 to 1914 he was assistant physician to the Hospital of the Rockefeller Institute. During the war he was at first in charge of the Cerebro-spinal Fever Hospital at Bulford (1914–15); he proceeded to France with the 1st Canadian Division, becoming Officer Commanding the Canadian Mobile Laboratory in 1916. In 1918 he was appointed Adviser in Pathology to the Fourth Army. He was mentioned four times in dispatches and was awarded the O.B.E. Since 1920 he has been Assistant Director of the Medical Unit at the London Hospital. He has published a large number of papers, independently and in collaboration with others, in the British Medical Journal (1915), the *Journal of Experimental Medicine* (1913–14), and other medical periodicals.

UNIVERSITY OF EDINBURGH.

AT the graduation ceremonial held in the M'Ewan Hall on July 25th the following degrees and diplomas were conferred:

M.D.—Major A. G. Biggam, O.B.E., R.A.M.C., A. Davies, †G. D. Fairley, †T. Ferguson, *S. W. Hardikar, †J. F. C. Haslam, †T. D. Inch, O.B.E., *M.C.*, †J. Jeffrey, †F. Krone, †Lieut.-Colonel Abdurrahman Khan Lauddie, I.M.S. (*in absentiâ*), *R. C. Low, †H. S. Lucraft, D. I. O. Macaulay, E. S. Massiah (*in absentiâ*), C. I. Milne, Janet M. Murray, J. O. Murray, O. T. Owen, ‡G. C. Ramsay, O.B.E. (*in absentiâ*), J. W. G. H. Riddell, *M.C.*, S. Rowland, A. H. Shennan, ‡Major B. H. H. Spence, R.A.M.C., ‡A. White, †S. H. Wilkinson, *G. S. Williamson, *M.C.*, E. A. Wilson.

* Gold medal for thesis. † Highly commended for thesis.
‡ Commended for thesis.

M.B., CH.B.—§A. M. Affleck, J. A. Aitchison, J. Aitken, Agnes M. Allan, A. J. W. Allen, A. A. Allison, §J. M. Alston, J. M. Anderson, R. G. Anderson, W. L. Anderson, F. R. Ashton, D. Bell, R. Bell, *M.C.*, R. A. Bennett, W. D. Bertram, C. M. Bethune, W. J. Bethune, W. H. Biccard, C. A. Bingham, R. A. F. Blair, †T. Bonar, Marion Bow, T. R. Bowden, E. P. Boyle, C. A. Bozman, A. Brodie, Marjorie I. Brotherston, K. R. Brown, Margaret C. Bruce, Joyce L. Bunting, C. P. Burges, Margaret C. Burnett-White, Robertha Burt, R. C. Burton, F. L. Buttar, Bertha M. Butters, D. Cameron, I. M'D. Cameron, A. F. Campbell, G. MacD. Campbell, R. J. W. Charlton, W. N. Chisholm, Elizabeth K. Clark, Margaret R. Clark, J. Cottrell, W. D. Couper, J. Crawford, Elsie V. Crowe, D. A. Cunningham, F. Danks, W. R. Davies, C. Davies-Jones, L. J. Davis, E. Dockray, Mary K. D. Douglas, J. E. Dovey, Anne Duguid, I. Duguid, §J. Durran, R. O. Eaton, D. M. Edington, R. A. Edmondson, A. D. Fairbairn, A. A. Fothergill, A. Foxcroft, A. J. Gans, C. E. G. Gill, K. H. Gillison, E. J. G. Glass, I. Goldberg, G. R. Gomez, E. W. Goodwin, E. G. R. Grant, J. L. Harley, J. W. Harris, T. B. Harvey, D. J. D. Henderson, P. S. Henderson, Dorothy P. Herdman, R. Hermon, J. Heron, C. E. V. Horne, J. L. Horne, T. Howden, Eleanora J. Howie, J. W. Hunter, N. M. Hunter, C. Hurwitz, L. I. Johnston, Jeannie Kean, T. P. Keating, Winifred K. N. Kemp, G. R. Kennedy, P. A. H. King, D. Laing, F. W. Lang, *M.C.*, J. H. D. Lawrie, W. J. Liddle, J. S. Lipta, Phyllis E. List, R. Lodge, Elizabeth B. Lorne, Kathleen B. Lorraine, Gwyneth D. Love, J. Lowe, I. E. M'Cracken, A. S. M'Culloch, M. MacCul'och, A. A. S. M'Donald, D. R. Macdonald, I. J. Macdonald, J. F. M'Donald, R. A. Macdonald, H. M. MacGill, ‖Isabel M. MacGillivray, D. M'Gregor, I. G. MacGregor, W. Mackay, Helen W. MacKenzie, H. W. D. Mackenzie, W. J. Mackintosh, A. E. W. M'Lachlan, ‖D. G. S. M'Lachlan, Helen S. M'Laren, D. Macleod, J. Macleod, §J. T. M'Ouat, S. Macvicar, W. R. Main, Margaret F. B. Marshall, A. N. Melvin, A. I. Messer, ‖Ruth E. Millar, W. G. Millar, R. D. Miller, Kathleen G. Milner, ‖Grace E. Monro, J. G. B. F. Morris, J. R. Murdoch, C. A. Murray, G. B. Murray, H. A. Murray, B. Myer, H. Myers, I. Z. G. Nel, Barbara K. Nicholson, G. S. Nicoll, S. Noll, J. G. Oliver, Winifred Ormerod, J. R. Paterson, H. Patrick, ‖W. G. Patterson, J. H. Penman, T. V. R. Philip, H. B. Porteous, Annie Rabinowitz, Frances A. Redhead, H. R. M. Richards, J. A. Richardson, A. H. D. O. Richmond, R. G. Riddell, G. Robb, Rhoda B. V. Robb, A. Roberts, L. G. Rosa, F. M. Rose, A. M'K. Ross, Anita H. M. Ross, W. M. Ross, C. F. Rostant, C. M. Russell, I. Sanderson, R. C. Scott, M. Segal, A. J. Shedden, T. D. Shiels, H. Shirlaw, M. F. de Silva, Agnes M. C. Simpson, §Winifred M. Small, E. Smalley, C. H. Snowdowne, J. R. Somerville, J. W. Starkey, J. P. Steel, N. M. Stephen, R. S. Stewart, S. S. L. Steyn, R. I. Stirling, A. J. Stout, D. N. Stewart, H. R. Stubbins, Annie Sutherland, Jessie C. B. Sym, J. Symon, J. M. R. Thomas, T. H. Thomson, A. T. Till, ‖Margaret C. Tod, Agnes F. Turner, §J. F. G. Turner, W. S. Urquhart, Jessy W. Ward, J. Williamson, W. C. Wilson, W. Wyatt, F. E. Wynne, Helen M. A. Young, J. A. B. Young, Roberta M'G. Young.

‖ Passed with First Class Honours.
§ Passed with Second Class Honours.

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE.—R. J. Matthews (*in absentiâ*).

D.P.H.—Elizabeth A. Baxendine (*in absentiâ*), Elizabeth S. Blair, Jane P. S. Bow, W. Boyd, H. H. Condie, Mary I. S. Cuthbert (*in absentiâ*), E. C. Ellis (*in absentiâ*), Jean F. Farquhar, Edith N. Hartley (*in absentiâ*), Doris M. Hopps, Janet M. Morton, Agnes M. Ogilvie, Captain L. T. Poole, D.S.O., *M.C.*, R.A.M.C., R. J. Reid, W. A. Simpson, A. G. H. Smart, Dorothy F. Smith, Vera Thompson, E. P. Waters, J. H. Williams, C. R. Wilson.

The following fellowships, scholarships, prizes, etc., were presented:

Thesis Gold Medallists: S. W. Hardikar, M.D., R. C. Low, M.D., G. S. Williamson, M.D. The Cameron Prize in Practical Therapeutics: Harvey Cushing, M.A., M.D., D.Sc., LL.D., F.A.C.S., F.R.C.S. (Eng. and Ire.), Moseley Professor of Surgery, Harvard University, and Surgeon-in-Chief, Peter Bent Brigham Hospital, Boston, Mass., for important contributions to the surgery of the brain. The Ettles Scholarship and Leslie Gold Medal: Margaret Christine Tod, M.B., Ch.B. The Allan Fellowship in Clinical Medicine and Clinical Surgery: John Thomson M'Ouat, M.B., Ch.B. The Freeland Barbour Fellowship: Ruth Elizabeth Millar, M.B., Ch.B. The Stark Scholarship in Clinical Medicine: John Gray, M.B., Ch.B. The M'Cosh Graduate's and Medical Bursaries: Robert Carmichael, M.B., Ch.B. The Mouat Scholarship in the Practice of Physic: John Durran, M.B., Ch.B. The Buchanan Scholarship in Gynaecology: Thomson Bonar, M.B., Ch.B. The James Scott Scholarship in Midwifery: Margaret Christine Tod, M.B., Ch.B. The Lauder Brunton Prize in Pharmacology and Therapeutics: Owen Stanley Gibbs, M.B., Ch.B. The Beaney Prize in Anatomy and Surgery: Ruth Elizabeth Millar, M.B., Ch.B. The Conan Doyle Prize: Donald John Davidson Henderson, M.B., Ch.B. The Annandale Gold Medal in Clinical Surgery: Ernest William Goodwin, M.B., Ch.B. The Scottish Association for Medical Education of Women Prize: Margaret Christine Tod, M.B., Ch.B. The Dorothy Gilfillan Memorial Prize: Margaret Christine Tod, M.B., Ch.B.; *prox. acc.*, Winifred Margaret Small, M.B., Ch.B. The Wellcome Medals in the History of Medicine: (*Gold medal*) Sidney Elisabeth Croskery, B.Sc.; (*silver medal*) Samuel Layinka Ayodeji Manuwa. The Wightman Prize in Clinical Medicine: James Maxwell Alston, M.B., Ch.B. The Cunningham Memorial Medal and Prize in Anatomy: Graham Anderson Hereward Gumley. The Whiteside Bruce Bursary: Alexander Simpson.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

Fellowship Examination.

AT a meeting of the College held on July 25th, under the chairmanship of Sir Harold J. Stiles (President), the twenty-two successful candidates (out of fifty-seven entered) who passed the requisite examinations between March 31st and April 7th, 1924, were admitted Fellows:

R. G. G. Croly, R. Cuttle, H. Donovan, S. E. Duff, A. A. Gemmell, Major P. F. Gow, I.M.S., D.S.O., P. C. Kacker, Hilda M. Lazarus, Laura M. Ligertwood, J. D. McLaggan, E. R. Maduram, Captain S. Nag, I.M.S., Ellen L. A. Pateman, Captain R. H. C. Pryn, R.A.M.C., C. A. Rae, Z. Schwartz, L. Sive, R. C. Thomas, A. P. Walden, H. A. B. Whitelocke, W. R. Williams, T. G. Wynne.

The Services.

AUXILIARY ROYAL ARMY MEDICAL FUNDS.

THE quarterly meeting of the committee was held at 11, Chandos Street, W.1, on July 18th, when Colonel Mansell Moullin was in the chair. The treasurer's quarterly statement, which was of a satisfactory character, was received. In the benevolent branch five applications for help were renewed for a further year, the total amount being £278. In the relief branch a grant was made to one new case, four old cases were renewed, and grants amounting to £130 renewed. One new case was considered and the school fees, amounting to £30, granted. The next meeting of the committee will take place in October, when the majority of the cases will be again reviewed.

TERRITORIAL DECORATION.

THE Territorial Decoration has been conferred upon the following officers of the R.A.M.C., T.A.:—*General List:* Lieut.-Colonels J. H. Hunter, M.C., L. D. Bailey, M.C., and R. Phillips, O.B.E.; Majors D. W. Boswell, E. L. Dewdney, and J. H. Owens; Captain G. F. R. Smith. *Supernumerary List:* Major H. K. Griffiths. *Supernumerary for Service with the O.T.C.:* Lieut.-Colonel A. M. H. Gray, C.B.E.

Medico-Legal.

LUNACY LAW AND ADMINISTRATION.

HARNETT *v.* BOND AND ADAM.

IN the Court of Appeal, on July 23rd, Mr. Cope Morgan made an application, on behalf of Mr. W. S. Harnett, that an order made by the Court of Appeal as to costs should be stayed pending an appeal to the House of Lords.

Mr. Morgan said that in the King's Bench Division the plaintiff was awarded £25,000 damages for wrongful detention in a lunatic asylum, £5,000 being awarded against Dr. Bond personally, and £20,000 against Dr. Bond and Dr. Adam jointly and severally. The Court of Appeal had allowed the appeal of Dr. Adam, and had ordered a new trial in the case of Dr. Bond, with the usual order for the costs of the action and appeal to be paid or provided for by the plaintiff before further proceedings. Counsel now asked, on the ground of convenience, that the order as to costs should be stayed pending the hearing of the appeal in the House of Lords.

The Master of the Rolls, who sat with Warrington and Atkin, L.JJ., said the court saw no reason for interfering with the ordinary rule. Although the order of the Court of Appeal might be inconvenient, it did not render the appeal to the House of Lords impossible, and there seemed to be no ground for exercising the discretion asked for by the plaintiff.

Medical News.

PROFESSOR K. F. WENCKEBACH recently summoned a conference in Vienna, at which Dr. W. B. Coffey and Dr. P. K. Brown demonstrated the technique of their operation for the relief of angina pectoris, comparing it with the operation performed by Dr. G. Hofer of Vienna. A plan of further joint investigation was arranged and another meeting proposed for 1925.

THE Junior Red Cross is the name of a movement which is thought to have originated in the schools of Canada about 1916, although it began independently in Australian schools about the same time. Since then it has spread to the schools of twenty-one countries, and its members number six million children. Its main object is to inspire children with the idea of service. It has begun the issue of *The Junior Red Cross Journal*. Further particulars can be obtained from the Director, Junior Red Cross, 19, Berkeley Street, W.1.

AN international health congress will be held at Lausanne on August 4th, 5th, and 6th under the auspices of l'Union Internationale contre la Tuberculose.

TWO years ago the Canadian Medical Association decided to establish a triennial oration in honour of Lister. A committee was formed and reported that the sum of 5,000 dollars would be necessary, the interest from which should be sufficient in three years to provide for the visit to Canada of some distinguished authority. Donations may be sent to Dr. F. N. G. Starr, 112, College Street, Toronto. The first Listerian Oration was delivered at the recent meeting of the Canadian Medical Association in Ottawa by Dr. John Stewart of Halifax.

SIR JOHN ROSE BRADFORD, K.C.M.G., M.D., has been adopted by the London University Unionist Association as the official Conservative candidate at the by-election caused by the death of Sir Sydney Russell-Wells, M.P. for the University of London.

THE Universities' Library for Central Europe, established four years ago to meet the book famine in the universities of Central Europe, has already supplied to various university and other libraries 25,000 volumes and some 50,000 parts of scientific periodicals. The countries thus benefited are Austria, Czecho-Slovakia, Danzig, Finland, Germany, Hungary, Poland, Rumania, and Russia. Among medical periodicals sets of which have been supplied is the BRITISH MEDICAL JOURNAL. The committee believes that the ensuing months will see a relaxation in the urgency for the distinctly charitable aspects of its work, but that a strenuous effort must be made during this year. An appeal is therefore made for contributions. Cheques and money orders, which may be earmarked for a particular country or university, should be made payable to Sir George S. Gibb, London School of Economics, Houghton Street, London, W.C.2.

PRIZES of 100 guineas, 60 guineas, and 40 guineas respectively are being offered by the directors of the *Medical Journal of South Africa* for three essays, entitled the Maynard Prize Essays, to perpetuate the memory of the late Dr. Maynard, who was for some time editor of that journal. The prizes will be awarded for the three best essays submitted on or before December 31st, on the following subjects: (1) Dental caries in native children in kraals and in urban areas; (2) Frequency of infestation with, and pathological conditions due to, intestinal parasites among Europeans and natives in South Africa and the treatment of these conditions; (3) Surgical tuberculosis in South Africa and its treatment; (4) Chronic diarrhoea—its etiology, pathology, and treatment, with especial reference to South African conditions; (5) The treatment of industrial surgical accidents, with special reference to restoration of functions and minimizing subsequent incapacity. No whole-time employees of the department of public health or whole-time workers in research institutions will be eligible for these awards. It is hoped that it will be possible to offer the prizes yearly.

THE Office Français du Tourisme (56, Haymarket, London, S.W.) is issuing some pamphlets on French spas. The last two deal with Luchon in the Pyrenees, and the thermal watering places of Auvergne.

AT the June matriculation examination of the University of London 126 successful candidates were placed in the first division and 1,019 in the second division; 41 took the supplementary certificate for Latin.

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange). The telegraphic addresses are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westrand, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westrand, London.*

MEDICAL SECRETARY, *Medisecra Westrand, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone 4737, Dublin), and of the Scottish Office, 6 Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone, 4361, Central).

QUERIES AND ANSWERS.

SOMNAMBULISM.

"W." asked in our issue of June 7th for advice as to the treatment of a public school boy, aged 16, who had recently begun to walk in his sleep. A correspondent writes in reply to advise that the boy should not give up work and should not be given any drug, and continues: It is necessary to deal with the patient in his somnambulistic state as with a hypnotized subject. See him in such a state; talk to him as if he were awake; ask him where he is going and what he proposes to do. He will usually answer. If he does not at once respond repeat the question and tell him to go through his thoughts aloud. Write down what he says, reassure him while in his dissociated condition, then tell him to get back into bed, and suggest to him that he will remember what he has been doing and saying when he awakes in the morning, and that until then he will sleep quietly. When he wakes the next day read over to him what he has said, discuss the matter in the waking state, and supplement any information that may be desired.

INCOME TAX.

Subscriptions to Medical Association.

"M. C. P." refers to the note in our issue of June 14th with regard to the allowance of subscriptions to medical associations, and states that the local inspector of taxes has never allowed the deduction against his earnings as a school medical officer.

*** The note to which "M. C. P." refers dealt with the assessment of practitioners' profits under Schedule D rather than of salaries chargeable according to the rules of Schedule E. There is this difference, that in the latter case the expenses are not allowable unless "necessarily" incurred in the performance of the duties of the office. "Necessarily" is a word which perhaps requires, and certainly is capable of, a strict construction, and unless "M. C. P." can show that membership of the British Medical Association is required by his authority as a condition of his employment he will probably be unable to convince the authorities that the subscription is allowable in his case; if membership is so required he would probab y succeed if he appealed against the inspector's view to the General Commissioners.

LETTERS, NOTES, ETC.

DERMATITIS DUE TO CATERPILLARS.

DR. W. F. CASTLE (London, W.) writes: The recent prevalence of caterpillars in the London parks and squares has resulted in several cases of dermatitis. The caterpillars, which are of the large and hairy varieties, drop from the trees and bushes on to the chairs and seats. Children apparently like playing with them and picking them up, and wherever the hairs come in contact with the skin dermatitis may appear. In one case a nurse had severe dermatitis of the buttock, due presumably to having sat on some caterpillars, the hairs or irritation of the hairs having passed through her clothes. The rash may be of a discrete papular type or more diffusely erythematous, but in either case it yields to soothing lotions, and generally fades in two or three days. As in all cases of dermatitis due to external irritants, there is great variety in the degree of susceptibility even among children of the same family.

MILLSTONE FLOUR AND NATIONAL NUTRITION.

DR. J. MACPHERSON LAWRIE (London, W.) writes: I would be most grateful to know where, in London, one may be quite certain of obtaining bread made from a sound and nutritious flour. It seems to me a pity that the British Medical Association does not organize a more active crusade, carried out all over the country, on proper diet, and more especially on proper bread. The public require and would accept a definite lead from such a recognized and trusted medical authority. It seems to me that this first and all-important duty on the part of our profession is now being taken up by various educational authorities, and we may be left in an invidious position.

A GRAIN OF OATS IN THE CONJUNCTIVA.

DR. ADAM MOSS (West Kirby) writes: In 1901 I saw a patient who complained of pain and lacrymation in the right eye "ever since he was struck by a grain of oats, three months before." He had been standing near the man who was sowing oats broadcast, with an instrument worked by a bow. On everting the upper lid I found the grain, considerably swollen, embedded in the fornix. Some years ago I saw a lady who appeared to have a long creeping ulcer on the margin of the cornea. On proceeding to cauterize the margins and floor, an almost transparent husk of a grass seed came away attached to the cautery.

THE PURITY OF CARBON TETRACHLORIDE.

DR. DALE, in his letter published last week (page 160), pointing out that it was inadvisable to permit the presence of carbon bisulphide in carbon tetrachloride for internal administration, said that a new test of great delicacy would be published in the *Pharmaceutical Journal*. It appeared in the issue of our contemporary on July 26th (p. 101). It is performed as follows: 10 c.cm. of the sample to be tested is boiled and agitated for a few minutes, together with 3 c.cm. of an alkaline solution of potassium plumbite and 1 c.cm. of absolute alcohol. The mixture is then allowed to stand. A darkening of the upper layer signifies the presence of CS_2. The alkaline plumbite reagent is prepared by dissolving 0.5 gram of lead acetate in 20 c.cm. of water, and then adding 20 grams of pure caustic potash. The test is simple, and will detect 5 parts of CS_2 in a million. The investigation was carried out by Mr. Maurice Perkins, A.I.C., in the laboratories of the British Drug Houses, Ltd.

THE "MEDICAL DIRECTORY."

MESSRS. J. AND A. CHURCHILL (7, Great Marlborough Street, London, W.1) ask us to state that the annual circular with reference to the entries in the *Medical Directory* has been posted to each member of the medical profession. They ask for its return by an early post. If the form has not been received a duplicate will be sent on request.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 33, 35, 36, and 37 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 34 and 35.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 88.